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ABSTRACT

This collection of articles summarizes knowledge and research about how gun violence affects children and youth and discusses which policies hold promise for reducing youth gun violence. The papers are: (1) "Statement of Purpose" (Richard E. Behrman); "Children, Youth, and Gun Violence: Analysis and Recommendations" (Kathleen Reich, Patti L. Culross, and Richard E. Behrman); "Firearm-Related Death and Injury among Children and Adolescents" (Lois A. Fingerhut and Katherine Kaufer Christoffel); "Youth, Guns, and Violent Crime" (Alfred Blumstein); "Where the Guns Come From: The Gun Industry and Gun Commerce" (Garen J. Wintemute); "Mitigating the Effects of Gun Violence on Children and Youth" (James Garbarino, Catherine P. Bradshaw, and Joseph A. Vorrasi); "The Costs of Gun Violence against Children" (Philip J. Cook and Jens Ludwig); "Behavior-Oriented Approaches to Reducing Youth Gun Violence" (Marjorie S. Hardy); "Product-Oriented Approaches to Reducing Youth Gun Violence" (Stephen P. Teret and Patti L. Culross); "Policing Guns and Youth Violence" (Jeffrey Fagan); "Public Opinion about Gun Policies" (Tom W. Smith); and "Children and Guns: Advocacy Groups Speak Out" (James Forman, Jr.). Federal firearms laws and a list of acronyms are included. (Contains 28 references.) (SM)

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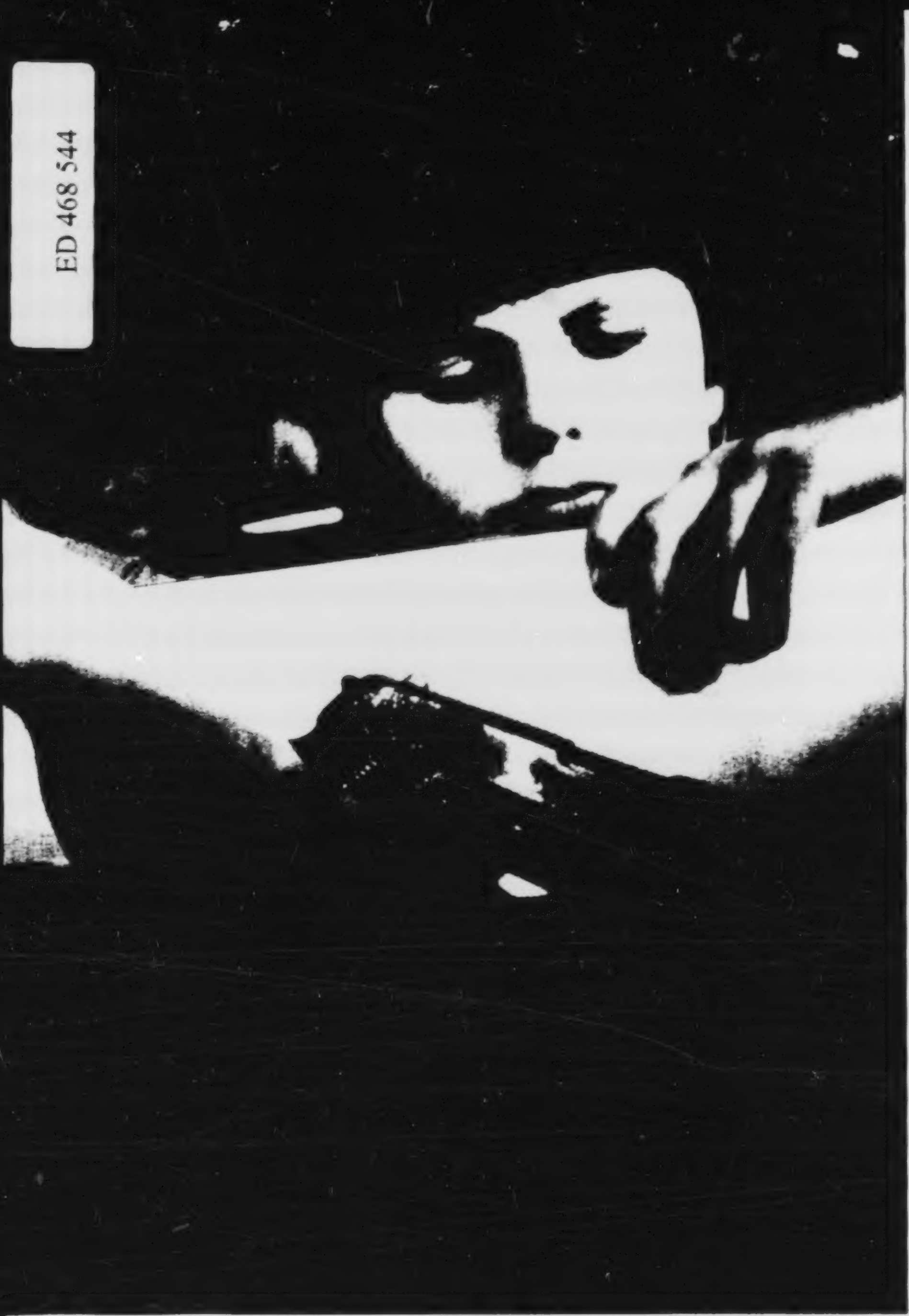

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Children, Youth, and Gun Violence

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Statement of Purpose

The primary purpose of *The Future of Children* is to promote effective policies and programs for children. The journal is intended to provide policymakers, service providers, and the media with timely, objective information based on the best available research regarding major issues related to child well-being. It is designed to complement, not duplicate, the kind of technical analysis found in academic journals and the general coverage of children's issues by the popular press and special interest groups.

This issue of the journal focuses on youth gun violence in the United States, examining the impact of such violence upon children, families, and communities, and exploring policies that aim to reduce gun deaths and injuries to children and youth. More than 20,000 people under age 20 are killed or injured by firearms in the United States each year. Gun violence is the second leading cause of death to young people ages 10 to 19 in the United States, and it imposes significant economic and psychological costs upon society. Therefore, keeping children and youth safe from gun violence and restricting young people's unsupervised access to guns should be key priorities for legislators, law enforcement, public health practitioners, educators, and parents alike.

The articles presented here summarize the knowledge and research about how gun violence affects children and youth, and which policies hold promise for reducing youth gun violence. Because programs designed to teach children to avoid guns or behave responsibly around them have not been proven effective, we argue that strategies to restrict young people's unsupervised access to guns should be given greater emphasis. These strategies include changing behaviors regarding gun ownership and storage among parents; engaging law enforcement and community leaders in anti-gun violence efforts; altering the design of guns to make them harder for children to use; and tightening laws regarding gun sales to reduce youth access to guns.

We welcome your comments and suggestions regarding this issue of *The Future of Children*. Our intention is to encourage informed debate about youth gun violence. To this end we invite correspondence to the Editor-in-Chief. We would also appreciate your comments about the approach we have taken in presenting the focus topic and welcome your suggestions for future topics.

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Children, Youth, and Gun Violence

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Kathleen Reich, M.P.P., Patti L. Culross, M.D., M.P.H., and Richard E. Behrman, M.D.

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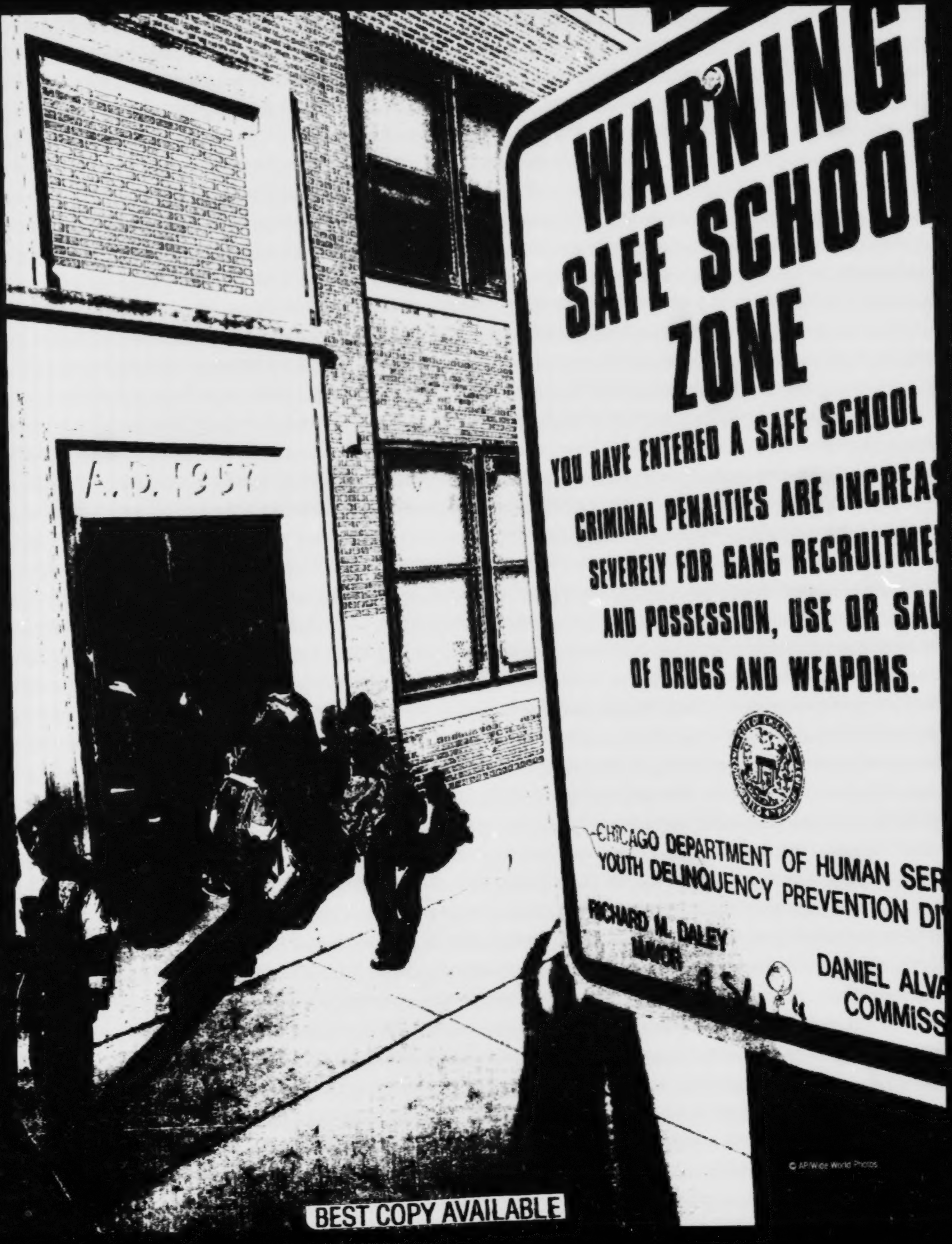
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Children, Youth, and Gun Violence: Analysis and Recommendations

Each year, more than 20,000 children and youth under age 20 are killed or injured by firearms in the United States.[1] Thousands of young people are shot by peers, family members, or strangers, either intentionally or unintentionally. Thousands more use guns to attempt suicide, and these attempts prove successful more often than suicides attempted by other means.[2] Countless other children and youth, though not injured or killed themselves, are survivors of gun violence, scarred by the effects of such violence in their homes, schools, or communities. Although children and youth are often victimized by gun violence, they also can become perpetrators, using guns to kill or maim others.

Despite a dramatic drop in violent crime throughout the mid- to late 1990s,[3] youth gun violence remains a significant concern among the public, policymakers, and researchers. The school shootings of the late 1990s, most notably at Columbine High School in Littleton, Colorado, in April 1999, brought home the issue of youth gun violence to many Americans. School shootings remain very rare; between 1993 and 1998, they accounted for fewer than 1% of firearm deaths among children and youth under age 20. Youth gun violence is most likely to affect minority youth in inner cities and white youth at risk of suicide.[1] Nonetheless, for many families, school shootings have underscored the fact that no child is safe from gun violence.

This journal issue takes a comprehensive look at youth gun violence in the United States, reflecting on the costs and consequences that firearm homicides, suicides, and unintentional shootings impose on young people. The journal summarizes research in youth gun violence prevention, a field that encompasses the work of public health researchers, criminologists, psychologists, sociologists, and legal scholars. By exploring the issue of youth gun violence from these varied perspectives, this journal issue draws a clearer picture of which children and youth are at risk of perpetrating or being victimized by gun violence; how gun violence affects young people; and what society can do to reduce the number of youth gun injuries and deaths.

Although youth gun violence is only part of the larger problem of youth violence, guns merit special attention for two key reasons. First, the lethality and widespread availability of guns have worsened youth violence in this country. Gun violence is a significant cause of death and injury among young people, and imposes serious psychological, economic, and social consequences on children, families, and communities.

Second, until very recently, public debates about gun policies have not focused on the safety of children and youth. Instead, much of the debate has centered on the meaning of the Second Amendment to the U.S. Constitution and the appropriate use of guns by adults. The Second Amendment reads, "A well regulated militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be infringed." Although there is extensive political and judicial debate over whether these words confer an individual right to bear arms or a collective right pertaining to state militias,[4] few would argue that the Second Amendment gives children a right to possess guns.

The wide-ranging public debate about the appropriate uses of guns in society also frequently overlooks youth, focusing instead on the circumstances under which adults should have the right to own and use guns. Gun rights supporters emphasize the legitimate uses of guns for sport and self-defense.[5-7] But here again, few propose that children and youth—especially younger children—should have access to guns for any purpose without adult supervision. As one prominent pro-gun advocate said, "No one defends unsupervised access to firearms by children."[8]

The key point is that when it comes to gun policy, according to both law and public opinion, children and youth are a special case. Given this consensus, and the enormous negative impact that gun violence has on children and youth, the goal of this journal issue is to help ensure that young people's safety becomes a central focus of the public debate on gun policy.

This article attempts to provide readers with a sense of the broad scope and complexity of the youth gun violence problem—and the understanding that multiple approaches are required if America is to make significant progress in reducing youth gun homicides, suicides, and unintentional shootings. The article begins with an overview of the physical, economic, and psychological effects of gun violence by and against young people. A discussion of strategies for reducing youth gun violence follows. We recommend a range of approaches to address the problem—including changing behaviors regarding guns among parents, youth, and communities; adopting community-based law enforcement approaches; altering the design of guns to make them harder for children to access and use; and tightening laws regarding gun sales to restrict youth access to guns.

Because few youth gun violence prevention policies or programs have been evaluated to date, the strategies and recommendations presented in this article should be viewed as starting points, not solutions. Hopefully, they will spur policymakers and the public to think broadly and creatively about how to reduce the death and injury toll from firearms among children and youth.

Gun Deaths and Injuries among Children and Youth

Guns are exceptionally lethal weapons, and they are easily available to young people. In the late 1980s and early 1990s, the lethality and availability of guns, particularly handguns, fueled a youth gun violence epidemic that peaked in 1994, when nearly 6,000 young people under age 20 died from firearm injuries.[1] That crisis has abated, but the number and rate of youth gun homicides, suicides, and unintentional shooting deaths remain unacceptably high in this country. Nearly 4,000 children and youth under age 20 were killed with firearms in 1998, and more than 18,000 others were injured.[1] Unfortunately, data regarding the extent of and circumstances surrounding youth gun violence are limited, and the need for better data remains a major concern. This section summarizes what is known about youth gun deaths and injuries, and makes recommendations for obtaining better information.

The Lethality and Easy Availability of Guns

Youth violence is a complex problem, influenced by psychological, economic, and social factors.[9] But the problem is worsened substantially because of the lethality and accessibility of firearms. Guns cause deaths and severe injuries more frequently than knives, clubs, or fists, and with guns, even transitory violent impulses can have lethal consequences. Guns also are easily available to young people, even though federal law, with a few exceptions,[10] prohibits those under 21 from purchasing handguns and those under 18 from purchasing rifles and shotguns or possessing handguns.[11] (See the table on federal firearm laws in this issue.) Exceptional lethality, combined with easy access, accounts at least in part for the fact that firearm-related injuries remain the second leading cause of death among children and youth ages 10 to 19. Only motor vehicle accidents claim more young lives.[1]

The Lethality of Guns

Guns are more lethal than other weapons. For example, robberies committed with guns are 3 times more likely to result in a fatality than are robberies with knives, and 10 times more likely than are robberies with other weapons.[12] Between 1996 and 1998, there was 1 death for every 4.4 visits to emergency departments by young people under age 20 for treatment of a firearm injury. In comparison, the ratio of deaths to emergency department visits for nonfirearm-related injuries for the same age group was 1:760.[1]

Guns have become more lethal over the past few decades. As detailed in the article by Wintemute in this journal issue, the increase in youth gun violence in the late 1980s coincided with the diffusion of high-powered semiautomatic pistols into the legal and illegal gun markets. These pistols had higher calibers (the higher a gun's caliber, the higher its destructive potential[13,14]) and held more ammunition than their predecessors. Semiautomatic pistols, particularly inexpensive ones, quickly became weapons of choice for criminals, including young people; by 1999, these pistols accounted for one-half of all guns traced by the U.S. Bureau of Alcohol, Tobacco and Firearms (ATF) after being recovered by law enforcement following a crime. With the increasing use of these guns came increases in rates of firearm violence, the average number of bullet wounds per person injured, and the proportion of victims who died before reaching the hospital.[15]

The Easy Availability of Guns

The increased lethality of guns, particularly handguns, coincided with their increasing availability to and use by young people. The article by Blumstein in this journal issue notes that the carrying of guns by youth began to rise in the late 1980s in tandem with the explosive growth of markets for crack cocaine. As young drug dealers in urban communities began using guns to protect the cash and narcotics they carried, other young people in the community also began carrying guns, often for self-protection. This process was exacerbated by the growth of youth gangs, which tightened social networks among teenagers and served as conduits for the diffusion of guns.[16]

Overall homicide rates in the United States rose to nearly unprecedented levels between 1985 and 1993, and the entire increase was attributable to homicides committed by young people with guns. Guns were not the only reason for this increase; the rise of crack cocaine, an increase in child poverty, and expanded gang activity also were important factors.[17] But the increasing lethality and availability of guns undoubtedly played a key role in the explosive growth of youth gun homicide.[18] As the Surgeon General reported in 2001:

> The epidemic of violence from 1983 to 1993 does not seem to have resulted from a basic change in the offending rates and viciousness of young offenders. Rather, it resulted primarily from a relatively sudden change in the social environment—the introduction of guns into violent exchanges among youth. The violence epidemic was, in essence, the result of a change in the presence and type of weapon used, which increased the lethality of violent incidents.[19]

Since the early 1990s, both youth gun carrying and youth gun violence have declined dramatically. Several articles in this journal issue offer theories to explain the decrease; these include a drop in illegal drug market activity (particularly surrounding crack cocaine), stronger law enforcement against youth gun carrying, and increased public education efforts promoting safe storage of guns and violence prevention.[20] Still, many young people apparently have little difficulty obtaining guns, either from home, from friends, through illegal purchase from gun dealers or "on the street," or through theft.

For example, an estimated 34% of children in the United States live in homes with firearms.[21] In addition, in a national study of male high school sophomores and juniors conducted in 1998, 50% of respondents reported that obtaining a gun would be "little" or "no" trouble.[22] A 1999 national survey estimated that 833,000 American youth between the ages of 12 and 17 had carried a handgun at least once in the previous year.[23] Many teens who carry guns cite the need for self-protection as their primary reason for doing so.[24] With so many children and youth reporting easy access to guns, high rates of youth gun death and injury should not be surprising.

The Human Toll: Homicides, Suicides, Unintentional Shootings, and Firearm Injuries

In 1994, the number of gun deaths among children and youth under age 20 reached a historic high of 5,833; by 1998, annual deaths had fallen to 3,792.[1] Still, gun death rates among children and youth due to homicide, suicide, and unintentional shooting are far higher in the United States than in other industrialized nations.

The risk of gun death is not spread evenly throughout the youth population, however. Certain groups of young people are at greatest risk. Moreover, a February 2002 study found that children ages 5 to 14 were more likely to die from gunshot wounds if they lived in states where firearm ownership was more common. This finding held true even after the researchers controlled for state-level poverty rates, education, and urbanization.[25]

Homicide

An estimated 58% of firearm deaths among children and youth under age 20 in 1998 were homicides.[26] As detailed in the article by Fingerhut and Christoffel in this journal issue, older teens, males, minority youth, and young people residing in urban areas are more likely than other children and youth to die in gun homicides. Adolescent African American males are at highest risk for youth gun homicide; in 1998, some 63 out of every 100,000 African American males ages 15 to 19 died in a firearm homicide, compared with a rate of 29 per 100,000 for their Hispanic counterparts and 3 per 100,000 for white male teenagers.

Children and youth are perpetrators as well as victims of gun violence. In 1998, juveniles and youth under age 25 committed 54% of gun homicides in which the offender was known; juveniles under age 18 alone accounted for 12% of gun homicides in which the offender was known.[27] African American teenage males are more likely to commit gun homicides than are white or Hispanic youth.[28] Thus, African American youth are overrepresented both as victims and perpetrators of youth gun deaths.

Even without firearms, American children are more likely to die in homicides than their counterparts in other industrialized nations.[29] However, guns worsen the violence. The firearm-related homicide rate among children under age 15 in the United States is nearly 16 times higher than in 25 other industrialized nations combined.[30]

If the United States could reduce youth gun homicide to levels more comparable to those of other nations, youth homicide rates in general would decline significantly, giving more children and youth—particularly adolescent males, minority youth, and young people living in inner cities—a better chance of reaching adulthood. An important first step in this process is to forge a national commitment to reduce youth gun homicide. The effort should be led by the federal government and include active involvement by a wide range of stakeholders such as public health experts, law enforcement personnel, religious leaders, community leaders, educators, and parents.

Recommendation

Congress and federal health agencies should set a goal of reducing youth gun homicide to levels comparable to those of other industrialized nations, engaging in a comprehensive effort to identify the causes of youth gun homicide and reduce its prevalence in American society.

Suicide

Suicide is the second leading cause of firearm-related deaths among children and youth, accounting for 33% of these deaths in 1998.[26] Although youth gun suicides declined somewhat in the late 1990s, firearms remain the most common method of suicide among youth, as the article by Fingerhut and Christoffel notes. Youth are more likely to use guns to commit suicide than are older, nonelderly adults; in 1994, about 67% of 15- to 24-year-olds used firearms to commit suicide, compared with 56% of 25- to 64-year-olds.[31] White adolescents, males, and youth living in rural areas are more likely than other youth to die in gun suicides,[1] although the gun suicide rate among African American adolescent males has risen sharply in the past 20 years, and is approaching the rate for white adolescent males.[32]

Numerous studies have documented a clear association between the presence of firearms in the home and suicides, particularly suicides by adolescents and young adults.[31,33,34] One study found that guns were twice as likely to be present in the homes of teen suicide victims as in the homes of suicide attempters or a comparison group of teen psychiatric patients who were not suicidal.[33] Household firearm ownership is positively associated with the firearm suicide rate for 15- to 24-year-olds, even after controlling for education, unemployment, and urban residence.[34]

The rate of nonfirearm suicides among 5- to 14-year-olds in the United States is roughly equal to the rate in other industrialized countries combined. However, the firearm suicide rate among children in this age group is nearly 11 times higher. As a result, children in the United States commit suicide at twice the rate of children in 25 other industrialized nations combined.[35]

Despite the prevalence of youth gun suicide, it has been something of a silent killer, not attracting nearly as much attention from policymakers, researchers, and the media as youth gun homicide or even unintentional shootings. One unresolved issue in academic literature is whether youth who commit suicide with a gun would simply have found another way to kill themselves if guns were not available to them. Given the extreme lethality of firearms, it seems plausible that at least some young people might not have succeeded in their suicide attempts if they had not had access to a gun. Therefore, convincing young people, parents, and the public to keep guns away from youth at risk of suicide should be a high priority.

Recommendation

Federal and state public health agencies should make youth gun suicide a central focus of their gun violence prevention and suicide prevention activities, developing and assessing methods for keeping guns away from youth at risk of suicide.

Unintentional Shooting Deaths

Unintentional shootings among young people most frequently happen when children or youth obtain a gun and play with it, not realizing that it is real, or loaded, or pointed at themselves or a friend. In 1998, more than 7% of children and youth under age 20 killed by firearms died in unintentional shootings,[36] and these shootings accounted for 27% of firearm deaths among children under age 12, according to the article by Fingerhut and Christoffel. Boys, African American children, and Hispanic children are more likely to die in accidental shootings than are other groups of children. The death rate from unintentional shootings among children is nine times higher in the United States than in 25 other industrialized nations combined.[37]

Although accidental shootings of children have declined significantly in recent decades, they still attract a great deal of public attention, perhaps because the victims, and sometimes even the perpetrators, are seen as blameless and the deaths preventable. If guns were not present in the home, if they were designed with safety features making them difficult for children to fire, or if they were stored safely—unloaded and locked, with ammunition stored separately from the guns—the risk to young children could be virtually eliminated.

Firearm Injuries

For every gun death among young people under age 20, there are more than four injuries. Although the data about nonfatal firearm-related injuries to children and youth are incomplete,[38] the article by Fingerhut and Christoffel summarizes what is known: From 1996–1998, an estimated 18,400 children and youth visited emergency departments for gun injuries each year, with nearly one-half of these visits requiring hospitalization. About 85% of these firearm injuries were among older teens, ages 15 to 19. Males were 7 times more likely than females to be injured. African American youth were 10 times more likely and Hispanic youth 2 times more likely to be injured than were white youth.

The Need for Better Data

To develop and evaluate policies for reducing youth gun injuries and deaths, policymakers need more complete data on how firearms are used by and against children and youth. Although 13 national data systems collect information about persons who are killed or injured in the United States, none of these systems is designed to capture information about firearm deaths and nonfatal injuries generally, or about firearm victimization of children and youth specifically. A substantial number of cases lack vital information about shootings involving children and youth, such as the victim–offender relationship, alcohol or drug involvement, the location where the shooting occurred, crime and gang involvement, and the frequency with which injuries occur.[39]

Without more complete data, policymakers and researchers cannot answer many basic questions about gun violence among children and youth, or use data to design effective interventions.[40] For example, because public health professionals do not know the circumstances most likely to result in children and youth being shot, they may not know where to focus prevention efforts. In addition, ATF has concluded, "Insufficient information about how minors and criminals illegally acquire guns has impeded efforts to investigate and arrest illegal suppliers of firearms."[41] Two major efforts to improve data collection related to youth and guns are under way; they should be supported and expanded.

National Reporting on Violent Deaths and Injuries

To obtain more data about firearm victimization of children and youth, a consortium of universities has developed a pilot program for reporting violent deaths: the National Violent Injury Statistics System (NVISS). This system collects data on all violent deaths, including firearm-related deaths, in seven states and six cities and counties, and reports on more than 50 variables by aggregating information from existing data sources.[42] NVISS is modeled on the Fatality Analysis Reporting System (FARS), which reports information on fatal auto accidents. FARS is credited with providing information that has led to numerous policy changes, including raising the legal drinking age from 18 to 21.[43]

A national violent death reporting system—or better yet, a violent death and nonfatal injury reporting system—would document patterns of violence nationwide, yield more complete data about firearm violence, and support policymakers' efforts to develop strategies for reducing all forms of violence, including gun violence. Full national implementation of such a system would cost an estimated $20 million per year.[44] This investment would be worthwhile if it could lead to more effective strategies for reducing youth gun violence, which has been estimated to cost society $15 billion a year, as detailed later in this article.

Tracing Guns Used in Crimes

In a separate data collection effort, ATF has launched the Youth Crime Gun Interdiction Initiative to document circumstances under which youth obtain guns used in crimes. Under this program, law enforcement agencies in 36 cities submit serial numbers to ATF for all guns that they seize in crimes.[45] ATF then traces these guns to their original point of sale in an effort to identify sources of illegal gun trafficking to youth.

Already, the program has uncovered important information about where youth obtain illegal guns. The gun traces have revealed that between 25% and 36% of traced guns that were used by youth to commit crimes are new guns (less than three years old), often sold illegally to youth by corrupt licensed firearms dealers, or illegally bought for youth by adult purchasers (called "straw" purchases).[41] Expanding the gun tracing program to more U.S. cities would give researchers a better understanding of where and how youth obtain illegal guns, and would inform efforts to prevent illegal sales to young people.

Recommendation

Federal, state, and local public health and law enforcement agencies should make a commitment to collecting better data about gun-related fatalities and injuries by supporting development of a national system for reporting violent deaths and injuries and a system for tracing all guns used in crimes.

The Economic and Psychological Toll of Youth Gun Violence

In addition to the human toll, gun violence among young people imposes significant financial and psychological costs on society. For children and youth, these costs can be especially high; those exposed to gun violence are at risk for significant and lasting psychological effects. Moreover, children do not have to be injured themselves to experience these negative effects. Exposure to gun violence at home, at school, in the community, or through the media all can cause harm.

Economic Costs

The most obvious economic costs associated with gun violence in the general population are health-related, in the form of increased medical costs due to injury and death. Other economic costs include those associated with strengthening law enforcement to combat gun crime, and prosecuting and incarcerating gun offenders.

Together, these costs total an estimated $4 billion to $5 billion annually.[46] However, the article by Cook and Ludwig in this journal issue notes that these costs account for only a small share of the total costs of gun violence to society. Other, less tangible costs related to gun violence—such as higher taxes to ensure public safety, higher housing costs as families move to areas that are perceived as safe from gun violence, and the psychological costs associated with fear—make up most of the costs of gun violence.

Such costs affect not only the families of gun violence victims, but all Americans, through increased taxes, decreased property values, limits on choices about where to live and work, and concerns about safety, particularly children's safety. These intangible costs can be difficult to quantify, but Cook and Ludwig argue that the costs of gun violence can be considered equivalent to the value that people place on safety from gun violence. Therefore, they estimate the costs of gun violence by assessing how much Americans would be willing to pay to reduce or eliminate gun violence from their lives.

A 1998 national survey that asked people about their willingness to pay for policy interventions to reduce gun violence found that the average American household was willing to pay $239 a year to reduce the threat of gun violence in its state by 30%. Based on these answers, Cook and Ludwig estimate that the total annual cost of gun violence in the United States is $100 billion, of which $15 billion is attributable to costs associated with gun violence against children and youth.

Psychological Costs

Just as the economic costs of gun violence are substantial, so are the psychological costs. Children exposed to gun violence, whether they are victims, perpetrators, or witnesses, can experience negative psychological effects over the short and long terms. Psychological trauma also is common among children who are exposed to high levels of violence in their communities or through the media. The article by Garbarino, Bradshaw, and Vorrasi in this journal issue details common effects associated with exposure to gun violence, including sleep disturbance, anger, withdrawal, posttraumatic stress, poor school performance, lower career aspirations, increased delinquency, risky sexual behaviors, substance abuse, and desensitization to violence. All of these effects can make children and youth more prone to violence themselves, feeding a continuing cycle of violence within some families, peer groups, and communities.

Arguably, every child in the United States is exposed to gun violence through media coverage of shootings, films and television shows, and violent video games that allow young people to shoot lifelike targets on the screen. More than 1,000 studies have documented a link between violent media and aggressive behavior. Children exposed to media violence have been shown in experimental studies to become more aggressive, to view more favorably the use of aggression to resolve conflicts, to become desensitized to violence, and to develop a belief that the world around them is a frightening place.[47]

However, the children and youth at highest risk for psychological trauma from gun violence are those exposed to it directly: children who are injured, who witness gun violence at close proximity, or who are exposed to high levels of gun violence in their homes, schools, or communities.[48] School and community violence are particularly worrisome because they can affect large numbers of children at one time.

A December 2001 study of 119 African American seven-year-olds living in inner-city Philadelphia, for example, found that three-quarters had heard gunfire, one-third had seen someone shot, and one-tenth had someone in their own family or household who had been shot or stabbed. Among children in the study, exposure to higher levels of violence was correlated with more anxiety, greater likelihood of depression, lower self-esteem, lower grade point average, and more absences from school. More than 60% of the children worried that they might be killed or die, and 19% sometimes wished they were dead.[49]

Despite widespread recognition of the psychological costs to children and youth associated with gun violence, physicians and mental health professionals have been slow to develop treatments that help young people cope with gun-related trauma. Even children and youth who are injured often go without psychological help. One group of doctors has observed, "When patients present with suicide attempts, evaluation for future risk and follow-up treatment are considered standard practice. However, individuals treated for violent injuries generally receive no further evaluation."[50]

Government, schools, and health care practitioners should work together to ensure that children and youth who are exposed to gun violence get the psychological help they need. Two examples of innovative programs discussed in this journal issue include a pioneering project developed at the University of California, Los Angeles, that provides school-based group therapy for adolescents who have sustained or witnessed violent injury,[48] and a collaboration between the New Haven Police Department and Yale University School of Medicine to train police officers in how to deal with children who are victimized by or witnesses to violence.[51] Additional programs are needed to help youth overcome gun-related psychological trauma, especially because treating traumatized young people may make them less prone to violent acts in the future.

Recommendation

Policymakers, mental health professionals, and educators should develop, implement, and evaluate treatment programs that help youth exposed to gun violence cope with trauma.

Strategies for Addressing the Problem

No single policy solution will end youth gun violence in the United States; a wide repertoire of approaches is needed to address different aspects of the problem. Key strategies that may reduce youth gun violence include: reducing unsupervised exposure to guns among children and youth; strengthening social norms against violence in communities; enforcing laws against youth gun carrying; altering the design of guns to make them less likely to be used by children and youth; and, perhaps most importantly, implementing new legal and regulatory interventions that make it more difficult for youth to obtain guns. Parents, community leaders, policymakers, and researchers all have vital roles to play in implementing these strategies.

Reducing Children's Unsupervised Exposure to Guns

By monitoring their children's behavior, environments, and media use, parents can be the first line of defense in protecting children from gun violence. Parents who choose to keep guns in the home have a special responsibility to make sure that their children, and other children who visit their homes, do not have access to these weapons without supervision. Because research indicates that educational efforts aimed at persuading children and youth to stay away from guns or behave responsibly around them are of limited effectiveness,[52] policymakers and public health experts need to find creative, effective ways to educate parents about the importance of keeping their children safe through parental monitoring and safe gun storage.

Parental Monitoring

Close parental supervision can help keep children away from dangerous environments and situations.[48] Ethnographic research indicates that this approach may be especially effective in neighborhoods where violence is commonplace.[53] Parents who monitor their children closely also may be able to spot signs of violent behavior in their children more easily.

In addition, parents should monitor their children's media use, including their use of computers and video games. The American Academy of Pediatrics recommends that parents watch programming with their children; limit screen time for all media, including computers and video games, to a total of one to two hours per day; use the V-chip to restrict viewing of violent television; avoid violent video games; and keep children's bedrooms media-free.[54]

Safe Storage

As the American Academy of Pediatrics observes, the best way to prevent firearm injuries among children in the home is to remove guns from the home.[2] However, some parents who use guns for sport or self-defense are unwilling to take this step. In recent years, some gun control advocates and firearms manufacturers have promoted an alternative: safe storage of guns in homes with children or where children are likely to visit. They have counseled parents who own guns to store them locked, unloaded, and separate from their ammunition.[55]

Safe gun storage practices have the potential to decrease unintentional shootings by making guns less accessible to children and youth.[56] Safe storage also may reduce criminal gun use by youth by decreasing their access to guns in the home and by deterring theft, which is a prominent supply source for the illegal market, where many youth obtain guns.[56,57]

Although some oppose safe storage because they believe it makes guns less accessible for self-defense,[58] this concern must be weighed carefully against the risk that a child could find and use guns that are not stored safely. A 1999 study of young people under age 20 who were killed or injured in unintentional shootings in King County, Washington, found that 69% of these shootings took place in the young person's home, or in the residence of a relative or friend.[59] As the article by Smith in this journal issue notes, more than 70% of Americans support enacting laws that require guns to be stored locked and/or unloaded.

One interesting approach to promoting safe storage is being taken by the nonprofit group PAX, which has developed a series of public service announcements for its ASK (Asking Saves Kids) campaign.[60] The campaign, designed in consultation with the American Academy of Pediatrics, encourages parents to ask their neighbors if they have guns in their home—and if so, how those guns are stored—before sending their children over to play. However, this program has not yet been evaluated.

The Need for Parent Education and Awareness

Although efforts to promote safe gun storage have been widespread in recent years, studies estimate that only 30% to 39% of gun-owning American households with children store their guns locked and unloaded.[21,61] A study published in 2000 estimates that in 1.4 million homes—households that include approximately 2.6 million children—guns are stored loaded and unlocked. Guns are most likely to be stored in this manner in households in the South, in households with teenagers, and in households where someone is employed in law enforcement.[21]

The low safe storage rates in gun-owning households with children highlight the need for greater parent education and awareness about the risks that guns pose to children and youth. As detailed in the article by Hardy in this journal issue, parents often have serious misperceptions about their children's vulnerability to injury, believing that their children are unlikely to become victims of serious injury, that injuries are unavoidable products of fate, or that their children can take care of themselves.

A 1999 study of 400 parents in metropolitan Atlanta illustrates the latter point: 74% believed their child would either leave a gun alone or tell an adult if they found a gun.[62] A follow-up study published in 2001 that tested this perception found the reality to be quite different. In this study, parents were asked to rate their 8- to 12-year-old sons' interest in guns. The boys were then paired with a playmate or sibling and left alone to play in a room containing two toy guns and a real handgun. Among the boys whose parents thought their sons had a low interest in guns, 65% handled the real handgun; 35% of boys perceived to have a low interest pulled the trigger.[63]

Misperceptions about children's ability to assess dangers and avoid guns may be one reason that many parents resist messages to store their guns safely or remove them from the home, even when children are clearly at risk. In one study published in 2000, gun-owning parents of depressed adolescents at risk of suicide were counseled by their doctors to remove firearms from the home. Only 27% did so. In a comparison group of parents who had depressed adolescents but who did not own guns when the study began, 17% acquired them over the next two years.[34]

Nor have gun safety training programs been shown to increase safe storage practices. In fact, one study of gun owners found, "Individuals who have received firearm training are significantly more likely to keep a gun in the home both loaded and unlocked."[64]

By and large, laws requiring adults to store guns safely also do not appear to be successful in reducing unintentional gun deaths among young people. Seventeen states have enacted these Child Access Prevention (CAP) laws, which make it a crime for adults to store guns negligently so that they are later accessed by children or adolescents.[65] A 2000 analysis of 15 states with CAP laws found a 17% decrease in unintentional child gun deaths in those states, but the entire decrease was explained by one state, Florida, where the death rate fell by 51%. No other state with a CAP law experienced a statistically significant decline in unintentional firearm deaths among children. The study's authors theorized that Florida experienced unique declines because its law imposed the stiffest penalties of any state, its unintentional child gun death rate was unusually high prior to the law's enactment, and the law was highly publicized as Florida was the first state to enact a CAP law.[66]

Although CAP laws and programs designed to promote safe storage of guns have shown mixed results to date, parents still may be more promising targets for education and prevention efforts than are children and youth. As noted in the article by Hardy, it is difficult to persuade children and adolescents to stay away from guns or behave responsibly around them. Young children and those in elementary school frequently lack the ability to judge their probable risk of injury, identify hazardous situations, spot ways to prevent injury, or apply safety lessons they have learned in a classroom to the real world. In one experiment, for example, preschool children and their parents attended a session in which a police officer discussed the dangers of guns and asked children to promise never to touch one. After the session, the children were videotaped playing in a room where toy and real guns were hidden. Despite their promises, the children who had attended the class found and played with real guns at virtually the same rate as children who had received no instruction.[67]

Adolescents may have more of the cognitive maturity necessary to understand and apply gun safety lessons, but they also frequently have trouble assessing the risk of injury, and some are highly susceptible to peer pressure to engage in risky behaviors. Several researchers have documented that peer pressure plays a pivotal role in youth gun carrying; adolescents whose peers carry guns are more likely to feel the need to carry guns themselves.[28,68] So far, the data evaluating programs that help adolescents to develop skills to resist peer pressure, make responsible choices about guns, and resolve conflicts peacefully do not show that the programs have been effective at reducing youth gun violence.[52]

Thus, the potential of educational approaches aimed at children and adolescents appears to be limited, making it critical that parents understand the risks that guns pose to their children, and take action to shield their children from unsupervised exposure to guns. Policymakers, educators, and health care professionals should expand their efforts to promote stronger parental monitoring, as well as safe storage, so that children and youth do not have unsupervised access to guns.

Recommendation

Federal and state policymakers, in conjunction with public health experts and educators, should initiate creative public awareness and educational efforts—and evaluate existing approaches—to encourage stronger parental monitoring of children's exposure to guns and safe storage of guns in the home.

Engaging Communities to Reduce Youth Gun Violence

Even the most vigilant parents cannot shield their children fully from exposure to gun violence among their peers, in their schools, and in their neighborhoods. Therefore, any strategy to reduce gun violence must engage communities in prevention efforts.

In some communities, particularly those, as noted in the article by Fagan in this journal issue, "where disorder and crime are conflated with poverty and socioeconomic disadvantage," social norms against violence have broken down, fostering conditions where youth gun violence can thrive. In these environments, many youth feel the need to arm themselves for self-protection.[24,28]

To convince youth that carrying guns is not necessary or desirable, communities need to become safer. Because poverty, discrimination, and violence are often linked,[69] one way to decrease violence is to address economic inequality and social injustice in the United States. Indeed, as the article by Forman in this journal issue notes, some believe this is the only way to reduce youth gun violence. For example, researcher Gary Kleck, who has written extensively about the limits of gun control in reducing gun crime, argues,

> Significant, lasting reductions in violence are not likely to be produced by revisions in the criminal laws, reallocation of law enforcement resources, or tinkering with crime control strategies, whether they involve the conservative panaceas of 'getting

> tough' on criminals and making war on drugs, or the liberal panaceas of offender rehabilitation and gun control. In the long run, solving the violence problem will have to involve reducing economic inequality, injustice, and the social disorder these generate. It will have to involve improving the life chances of the underclass that contributes both the bulk of the victims and the perpetrators of violent crime.[70]

Clearly, the economic and social factors that underlie youth gun violence must be addressed. Eliminating economic disadvantage and racism are important long-term societal goals, and would undoubtedly reduce youth violence while improving a broad range of outcomes for children. At the same time, however, policymakers and communities should not lose sight of a more proximate cause of youth gun violence: the guns themselves. As the article by Blumstein notes, one of the key factors in the rise of youth gun violence in the late 1980s and early 1990s was the diffusion of handguns into young people's hands. As researchers Jeffrey Fagan and Deanna Wilkinson have written, "The ready availability of guns in the inner city has undoubtedly shaped and skewed street codes toward the expectation of lethal violence."[71]

Community leaders should take steps to change this expectation. They can promote young people's safety by sending unequivocal messages to youth that gun violence is not an acceptable way to resolve conflict. Elected officials, faith leaders, and educators all can play key roles in enforcing social norms against youth gun use. Because many youth who carry guns report obtaining them from family members and friends,[72] community leaders also should send messages to adults that it is dangerous—to youth and to the broader community—to allow young people unsupervised access to guns.

A few communities have experimented with antiviolence initiatives that provide safe places for children to study and play, focus on community revitalization, and feature public awareness campaigns against gun violence.[52] In addition, the article by Fagan describes law enforcement oriented approaches to community gun violence prevention. In Boston, for example, a coalition of African American ministers joined forces with police to send a forceful message—targeted at young gang members—that gun violence would not be tolerated in the community. Approaches like these have not been evaluated extensively, but they may hold promise for changing youth attitudes toward guns, empowering communities, and ultimately reducing youth gun violence.

Engaging youth themselves as agents for change in their neighborhoods also may be a promising strategy for reducing gun violence, and is being tried in some communities.[73] For example, one program, Youth ALIVE! in Oakland, California, employs young people who were formerly involved in gun violence to work as mentors to youth who have been injured by guns.[74] Programs such as these try to help youth create norms against gun carrying and gun violence in their communities.

Recommendation

Federal, state, and local policymakers should develop and evaluate comprehensive, community-based initiatives to reduce youth gun violence—partnering with schools, faith communities, community service programs, parents, and young people.

Strengthening Law Enforcement against Youth Gun Violence

Stronger enforcement of existing laws against youth gun carrying is another strategy to reduce gun violence. Beginning in the early 1990s, some police departments adopted an aggressive approach toward identifying and punishing youthful gun offenders. Supporters of this approach argue that punitive law enforcement against the criminal use of guns is an effective way to deter gun violence.[75] Indeed, at least one study found that fear of arrest can deter youth from carrying guns.[76] Other observers maintain, however, that community-based policing strategies, which emphasize close collaboration between police and citizens to prevent crime before it occurs, may reduce youth gun violence more effectively over the long term.[51]

The article by Fagan presents case studies from eight cities that have experimented with different approaches toward policing gun crime, particularly youth gun crime. For example, New York City adopted an aggressive, punitive approach, and gun homicide rates declined. However, the drop came at the price of severe strains in relations with minority communities, which viewed the police tactics as racist. This made it more difficult for police to engage the community in youth gun violence prevention efforts.

In contrast, San Diego's policing strategy focused on stopping youth gun crime before it started by combining aggressive law enforcement with equally aggressive outreach strategies to engage the community in controlling crime and preventing youth gun violence. The San Diego police met frequently with community advisory boards to identify crime problems and discuss potential solutions. More than 1,000 citizen volunteers were trained to prevent crime and assist crime victims in their neighborhoods, and police officers were assigned to schools to assess at-risk youth and connect them with social services. Youth gun violence rates declined in San Diego, and the city was spared the racial tension that plagued law enforcement efforts in New York.

It remains unclear how much police really can do to prevent or reduce youth gun violence, however. Analyses of gun violence rates in the nation's 20 largest cities suggest few differences from one place to another in the 1990s, regardless of whether police in those cities pursued punitive law enforcement strategies, community-based policing, a combination of approaches, or no specific policing innovation.[51] Nonetheless, the San Diego example illustrates how police can partner with the community to communicate social norms against youth gun carrying and gun violence.

Recommendation

Police should complement their existing efforts to deter youth gun carrying by developing and evaluating law enforcement approaches that include extensive police–community collaboration.

Changing the Design of Guns

Rather than focus on changing the behavior of parents and young people through education, community efforts, or law enforcement, some injury prevention experts suggest that it might be easier to reduce youth gun violence by changing the design of guns themselves.[77] Ample precedent for this approach can be found in the injury prevention field. As discussed in the article by Teret and Culross in this journal issue, changing the design of medication packages proved to be a more effective poisoning prevention strategy than convincing children to stay away from bottles of pills. Similarly, legislators, regulators, and litigators forced major design changes to cars that made them safer in crashes, thereby reducing motor vehicle fatalities in a way that driver training could not.

Requiring product safety features on guns, such as child safety grips (which make it difficult for young children to fire guns), magazine disconnect devices (which prevent guns from being fired when their magazines are detached, even if a round of ammunition remains in the gun), and loaded chamber indicators (which indicate whether guns are loaded), could reduce unintentional shootings among children and youth. This view is supported by a 1991 report from the U.S. General Accounting Office, which concluded that 31% of the unintentional gun deaths in 10 cities could have been avoided through use of child safety devices and loaded chamber indicators.[78]

In addition, emerging technologies would enable manufacturers to personalize guns, which could prevent unauthorized users such as teenagers or thieves from operating the weapons. Personalized guns, referred to as "smart" guns, hold promise for preventing intentional as well as unintentional shootings.[79]

Nearly 86% of respondents to a national poll on gun safety supported requiring all new handguns to be childproof, and more than 63% supported requiring new handguns to be personalized.[80] At the same time, the product safety approach to gun violence prevention is not without controversy. Some gun control advocates fear that if the public perceives guns to be childproof, more Americans will buy guns, increasing the risk of both intentional and unintentional shootings.[81] The Beretta Corporation, a leading gun manufacturer, has expressed concern that childproof guns could lead parents into lax gun storage practices, putting children at risk.[82] Some gun rights advocates claim that gun safety devices could easily be dismantled if gun owners did not want them,[8] and that personalization technologies are undeveloped and unproven.[83]

One major reason these technologies remain undeveloped and unproven, however, is that no one is requiring them. Guns are not regulated for safety by the Consumer Product Safety Commission, ATF, or any other federal agency. The federal government requires that imported guns meet a few basic safety standards (which do not include child safety features), but Congress has exempted domestically manufactured guns from these standards.

Virtually all other consumer products—such as motor vehicles and children's toys—are regulated for product safety. Particularly in view of their lethality, guns should not be an exception. If Congress mandated federal regulatory authority over guns, it could lead to requirements for standard product safety features on guns, such as magazine disconnect devices or loaded chamber indicators. Federal regulatory agencies also could fund research to develop other product safety features, including personalization, and assess whether these innovations are effective in reducing intentional and unintentional youth gun deaths.

State legislatures and consumer safety agencies also can assert the authority to regulate guns. In Massachusetts, the attorney general promulgated regulations requiring that commercially sold handguns incorporate product safety features that prevent young children from firing them.[84] Maryland enacted legislation requiring any newly manufactured handgun sold in the state beginning in 2003 to be equipped with an integrated mechanical locking device. Maryland's law also requires a state agency to review the status of personalized gun technology and report to the legislature annually.[84]

Recommendation

Congress should extend the jurisdiction of the Consumer Product Safety Commission or the Bureau of Alcohol, Tobacco and Firearms to regulate guns as consumer products, establish regulations requiring product safety features on guns, and evaluate the effectiveness of product safety interventions. State governments should extend similar authority to their consumer product safety agencies.

Limiting the Flow of Illegal Guns to Youth

Despite efforts by parents, community leaders, and police, many American young people can easily obtain guns for use in crimes. In 1999, approximately 9% of guns traced by ATF after being recovered by police following a crime were taken from juveniles, and an additional 34% were seized from people ages 18 to 24.[45] As described in the article by Wintemute, youth can obtain guns from family or friends, from corrupt dealers or straw purchasers, through theft, or on the street from private sellers or illegal dealers. Because private sales of guns in the United States are largely unregulated, it is all too easy for guns—especially handguns—to flow illegally into the hands of young people, even though federal law prohibits most young people from owning or possessing them.[10] A controversial but powerful approach to reducing youth gun crime is to tighten federal and state laws regarding gun sales so that fewer weapons are accessible to youth.

The Extent of the Problem

Numerous studies document the ease with which youth can obtain guns in the United States.[23,24] In a 1998 national study of male high school sophomores and juniors, 6% of respondents had carried a handgun outside the home in the previous 12 months. Among the youth who had carried guns, 48% had been given or loaned the gun by a family member or friend. Nearly an equal percentage had obtained the gun through an illegal purchase or theft: 35% had bought the gun (of those, 53% bought from family or friends), 5% reported asking someone else to purchase the gun, and 6% had stolen or traded something for it.[22]

Youth can obtain guns illegally from licensed dealers or in private transactions. Although licensed firearms dealers are regulated by the federal government (and by many states) and are required to conduct criminal background checks on all purchasers, some dealers do sell illegally to youth, often by turning a blind eye to straw purchases, in which youth ask older acquaintances to buy guns for them. It appears that only a small minority of licensed gun dealers are involved in illegal activity. According to federal statistics, guns sold by 1.2% of retailers account for more than 57% of the weapons that are later traced by ATF after being recovered by law enforcement following a crime.[85] Nevertheless, stricter federal and state oversight of licensed dealers might eliminate some of the more egregious offenders.

At the same time, guns sold by licensed dealers account for only about 60% of the guns sold in the United States. Guns sold by private parties, collectors, and unlicensed vendors at gun shows account for 40% of all gun sales.[86] These sales are not regulated by the federal government, nor by most states.[87] In an unregulated private sale, no background check takes place. Sellers are not required to keep records of their sales, and they do not even have to ask buyers for identification. Such lax requirements make it easy for youth to obtain guns.

Curbing Illegal Gun Sales to Youth

It is difficult to fully prevent unsupervised youth access to guns when guns are freely available to adults—and when nearly 200 million guns are already estimated to be in circulation in the United States.[88] However, significant steps can be taken to limit young people's ability to obtain guns illegally. The article by Wintemute assesses a number of these strategies, including stricter regulation and oversight of licensed gun dealers, regulation of gun sales on the private market, and requirements that guns be registered and their owners licensed.

Closer federal and state oversight of licensed dealers, for example, could help prevent straw purchases and could catch dealers who knowingly sell in bulk to illegal gun dealers, who in turn sell guns on the street to criminals and youth. Regulating sales on the private market—requiring identification and background checks for all purchasers, mandating that sellers keep records of all transactions so that police could more easily trace guns used in crimes, or requiring that all gun sales take place through licensed dealers—also could decrease the flow of guns to young people and others who are prohibited by law from having them.[89] Finally, requiring all gun owners to register their firearms and obtain licenses for their use, just as people must register their cars and be licensed to drive them, could decrease the number of guns available to youth. A gun confiscated from a young person could be traced to its registered owner, who could then face criminal penalties for transferring it illegally.

It is unlikely that any one of these proposals, or even all of them together, would stop the illegal flow of guns to youth completely. Even with stricter regulations on gun sales, illegal street markets for guns would probably continue to exist, as they do for drugs. But tighter regulations undoubtedly would make it more difficult and more expensive for young people to buy guns through these illegal channels,[90] and could deter some youth from buying guns altogether.

Decreasing the availability of illegal guns to youth is an important strategy to de-escalate the violence that plagues many communities, and to reduce the fear and need for self-protection that lead many youth to acquire guns in the first place. Researcher David Kennedy, who has written extensively about youth gangs and gun violence, has observed, "Many of the kids involved in this life do not really want to live it. Less readily available weaponry would ease tensions and diminish the deadliness of incidents."[91]

Recommendation

Congress and state legislatures should institute tighter restrictions on gun sales so that fewer guns illegally end up in the hands of youth. A variety of approaches should be implemented and evaluated—in particular, closer oversight of licensed dealers, regulation of private sales, and mandated licensing of gun owners and registration of guns.

Conclusion

Guns are unique weapons, highly lethal, and easily available. Their use by and against children and youth has exacted an enormous toll on American society. The economic costs associated with youth gun violence have been estimated in the billions of dollars. But the most significant costs—lost lives or diminished futures for children and youth affected by gun violence—are probably incalculable. The federal government and state governments, working in partnership with local communities and parents, should adopt a unified, comprehensive strategy for reducing youth gun violence in the United States.

Precedent exists for such a broad injury prevention strategy. Over the past 40 years, Congress, federal agencies, public health practitioners, and law enforcement professionals have worked together in a systematic effort to reduce motor vehicle deaths and injuries.[92] The approaches they have adopted include: national data systems that track all motor vehicle fatalities; federal safety standards for motor vehicles and equipment; federal and state requirements for driver training and licensing; strict enforcement of motor vehicle laws, especially against drunk driving; federal, state, and private-sector investment into research to improve motor vehicle safety and treatment of injuries; and extensive public awareness activities. As a result, the federal government estimates that 243,400 lives were saved between 1966 and 1990.[93]

Obviously, the task of reducing gun injury and death poses different and perhaps more difficult challenges than reducing motor vehicle injury and deaths, most of which are unintentional. Still, the motor vehicle example points to what is lacking in youth gun violence prevention efforts. As yet, no broad national consensus exists on how to approach the problem. There is no broad-based commitment to a wide range of strategies that will reduce unsupervised youth access to and use of guns.

There needs to be. Without more concerted efforts to reduce youth gun violence, children and youth will continue to die, unnecessarily and senselessly, from gunshot wounds. A national campaign against youth gun violence should be strongly grounded in research, and should encompass the broad range of strategies recommended in this journal issue. Such strategies should include promoting parental monitoring and safe gun storage; strengthening community norms against gun violence; implementing creative collaborations between law enforcement and communities; regulating guns as consumer products; and tightening federal and state laws regarding gun sales.

Common ground often proves elusive on an issue as polarizing as gun violence. Both gun control and gun rights advocates surely can agree, however, that it is unacceptable for the United States to have a higher rate of gun-related deaths and injuries to children and youth than all other industrialized nations combined. Hopefully, that point of agreement can serve as the foundation for aggressive efforts to reduce youth gun violence in the United States.

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ENDNOTES

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Firearm-Related Death and Injury among Children and Adolescents

Lois A. Fingerhut and Katherine Kaufer Christoffel

SUMMARY

As the articles in this journal issue show, gun violence affects children and youth in many ways: psychologically, emotionally, financially, and legally. But first and foremost, gun violence affects children's physical safety. Therefore, this issue opens with an overview of the physical toll that firearms exact upon children and youth, reviewing the incidence of firearm-related injury and death among Americans under age 20.

This article analyzes trends and current status in firearm death and injury, based on nationwide data collected by the federal government. Several key findings emerge from the data:

- Firearm death rates among children and youth in the United States have declined dramatically since 1993, but remain high compared with historical rates in this country and rates in other developed nations. A majority of these deaths are homicides.
- Certain groups of children and youth, especially adolescents, boys, minority youth, and those residing outside the Northeast, are particularly at risk for firearm death. The problem is most acute among black teenage males.
- Firearm injuries are much more likely to result in death than are other injuries for which children and youth visit emergency departments—a reflection of the extreme lethality of firearms.

Given these findings, the authors call for a concerted effort to reduce youth firearm deaths to levels comparable to those of other industrialized nations, using a wide variety of approaches that span the public health, criminal justice, and educational spheres. They also recommend improved data systems to track firearm injury and death, so that researchers can better analyze these incidents and evaluate intervention strategies.

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From the mid-1980s through the early 1990s, the number and rate of young Americans dying from firearm injuries rose to unprecedented levels—led by handgun homicides in urban centers, which primarily affected male minority teens and young adults. Teen firearm suicides also rose, particularly for rural white male teenagers and young adults.[1] This information helped to guide prevention and policy efforts around the country, as discussed in the articles by Wintemute, by Hardy, and by Fagan in this journal issue.[2]

The trend reversed itself fairly quickly. Since the early 1990s, for reasons that are still being debated, firearm death rates have fallen for all population groups, including youth. However, the problem remains significant. In 1998, the firearm death rate for youth was still 34% higher than it was in 1968; nearly 3,800 children and youth died from firearm injuries in homicides, suicides, or unintentional shootings. Twelve percent of all firearm deaths in the United States occurred among children and youth under age 20.[3]

This article summarizes patterns of firearm death and nonfatal injury among children and youth under age 20 in the United States. The article begins with an overview of the magnitude of the problem, including a discussion of trends over time in youth deaths due to firearm homicide, suicide, and unintentional shootings; possible explanations for the recent patterns in youth firearm deaths; and comparisons between youth firearm death rates in the United States and in other industrialized nations. The data make it clear that despite recent substantial declines in firearm injuries, firearm violence exacts a huge toll on America's youth. More than 20,000 children and teenagers under age 20 were killed or injured by a firearm in 1998. There are also an uncountable number of young persons whose lives are touched by firearm injury and violence each year, through the economic and social impact on families and friends of victims. (See the articles by Cook and Ludwig and by Garbarino, Bradshaw, and Vorrasi in this journal issue.)

The data also show that certain children and youth—boys, older teenagers, minority youth, and those residing outside the Northeast—are particularly at risk for firearm death. The second section of the article reviews key risk factors for youth firearm death, including age, gender, race, urbanization, and geographic location. This article briefly presents data on youth firearm-related injury and concludes with a discussion of the need for further research to clarify prevention strategies and options for the future.

The article relies on a number of data sources. The two most heavily used sources are the National Vital Statistics System, from which statistics on firearm deaths in the United States are derived, and the Firearm Injury Surveillance System (FISS), from which estimates of nonfatal firearm injuries are derived.[4-8] The Appendix provides an overview of the major data sources used in this article. Detailed discussion of data sources and methodology also may be found in the endnotes.

Youth Firearm Deaths: An Overview

In 1998, there were 3,792 young persons under age 20 who died as a result of a firearm-related injury in the United States, accounting for 7% of all deaths in this age range.[3] This number represents a substantial decline from the early 1990s. In 1994, the number of firearm-related deaths for those under age 20 peaked at 5,833, and accounted for 9% of all deaths in that age range.

Despite this decline, for youth ages 10 to 19, only motor vehicles were responsible for more deaths than firearms in 1998. Firearms were the fifth leading cause of injury death for children ages one to nine in 1998, following motor vehicle traffic-related deaths, suffocation, drowning, and fire- and burn-related deaths.

The majority of firearm deaths among children and youth are homicides—particularly among children under age 12 and older teens ages 17 to 19. For both these age groups, homicides accounted for 60% to 70% of all firearm deaths in 1997–1998. For teenagers ages 12 to 16, homicide accounted for a lower proportion of firearm deaths (about 40% to 50%), whereas suicide accounted for close to 40% of firearm deaths. Unintentional injury remains a significant cause of firearm death for children under age 12, accounting for 27% of all firearm deaths in that age group.

Trends over Time

One way to examine trends in youth firearm violence is to look at death rates. Figure 1 shows firearm death rates by age from 1968 through 1998, calculated as the number of deaths per 100,000 children in a given age group.[9]

These data show that death rates for young people ages 10 to 19 rose gradually throughout the 1970s and 1980s, then increased substantially in the late 1980s and continued to rise through the early 1990s. Most of this increase was due to a sudden rise in youth firearm homicides among older teenagers ages 15 to 19. To a much lesser extent, an increase in teen firearm suicide also resulted in higher death rates. Since 1979, firearms have been used in the majority of homicides and suicides among youth ages 10 to 19.[10] Specifically, for youth ages 10 to 14, firearms have accounted for 50% to 60% of suicides and 50% to 80% of homicides; for youth ages 15 to 19, firearms have accounted for 60% to 70% of suicides and 70% to 90% of homicides.

From 1993 to 1998, the death rate from firearms declined by nearly 50%. By 1998, the firearm death rate for children and teenagers under age 20 was the same as it was in 1978. This death rate is more than one-third lower than in the early 1990s, but it is still about one-third higher than in 1968.

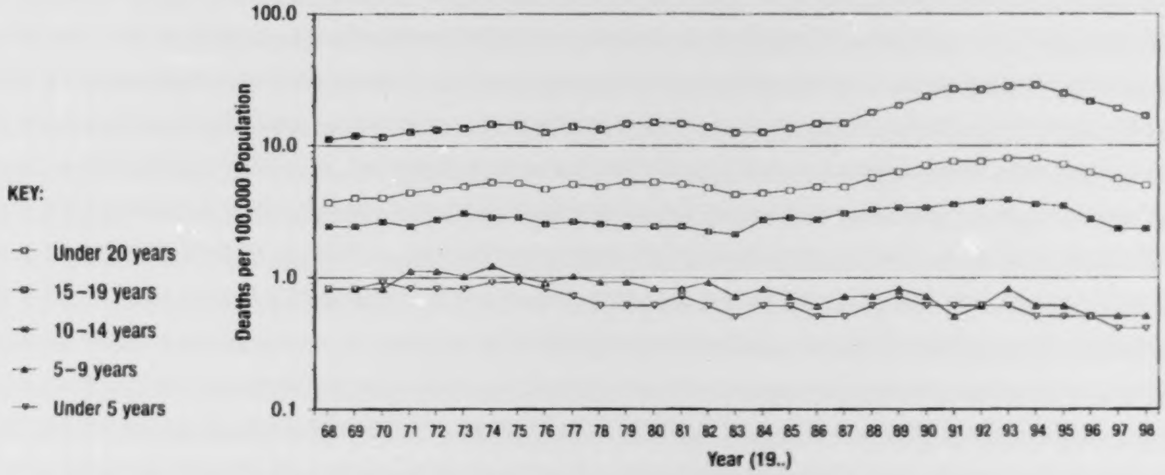
The decline in the firearm death rate among young people in the 1990s is due in large part to a decline in the youth firearm homicide rate, and to a lesser extent to declines in rates of firearm suicide and unintentional firearm death. From 1993 to 1998, firearm homicide rates for youth ages 10 to 14 and 15 to 19 fell nearly 50%. Firearm suicide rates for these age groups also fell in the 1990s, but less dramatically, declining 20% to 25%. The death rate for unintentional firearm injuries also has declined significantly since 1979—by 60% to 70%, depending on the age group.

Why the Decline in Youth Firearm Deaths?

Researchers are still debating the causes of the recent declines in firearm deaths among children and youth. The explanations put forward are inevitably speculative, but they include:[11,12]

Figure 1

Firearm Death Rates by Age, 1968–1998



Source: National Center for Health Statistics, National Vital Statistics System.
Note: These rates are displayed in log format, so the rates shown in the top section of the figure are 10 times those in the middle section, and the middle section rates are 10 times those in the bottom section.

- *Prevention efforts.* The unprecedented increase in youth firearm homicide rates (and in firearm homicide across all age groups) in the early 1990s resulted in increased attention to homicide prevention. This may well have led to a variety of changes that resulted in lower firearm homicide rates. These may include, but probably are not limited to, increased police enforcement of firearm laws, public education efforts, led by pediatricians, violence prevention advocates, and others, about the dangers of firearms in the home, and falling handgun sales in recent years.[13]

- *Changes in factors that affect the frequency of violence.* Another possibility is that a strong economy, a declining crack cocaine market, and community-based violence prevention efforts contributed to the broad fall in firearm homicides.[14] (See the article by Blumstein in this journal issue.)

- *Changes in factors that affect whether guns are present when violence occurs.* Police approaches to prosecuting gun offenders, resulting in less carrying of guns in violent situations, decreased handgun manufacture and possession, and increased use of safer gun storage measures all may have played a role in the decline in firearm homicides.[14] (See the articles by Fagan and by Wintemute.)

- *Specific attention to young children.* The marked decrease in firearm deaths among children ages one to nine could reflect specific attention to reducing firearm risks in this age range, stemming from the increasingly broad consensus that such deaths are preventable and unacceptable. Interventions include clinical counseling by pediatricians, the use of locked storage for firearms and ammunition in the home, and discussion among parents about firearm storage when children visit one another.[2,15] (See the article by Hardy.)

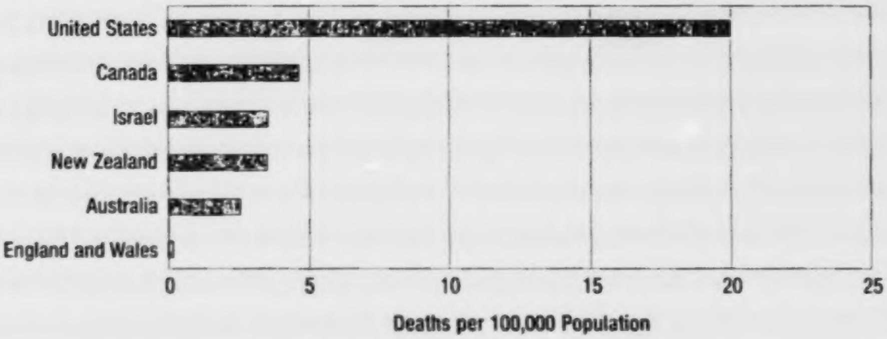
U.S. Youth Firearm Death Rates in an International Context

Even with the decline in the 1990s, youth firearm death rates in the United States are still far higher than those in other industrialized nations. A recent report[16] examined international patterns of firearm death rates among children and youth under age 15. The report found that the firearm homicide rate in the United States was 16 times that of the average for other industrialized countries, the firearm suicide rate was 11 times higher, and the unintentional firearm death rate was 9 times higher.

As Figure 2 shows, youth death rates for teens ages 15 to 19 in the United States also are high when compared

Figure 2

Firearm Death Rates for Teenagers Ages 15 to 19, Selected Countries



Source: Data provided by each country's vital statistics office. Because of inconsistencies in data collection, data shown here reflect different time periods for each country.
Note: The United States data are from 1996–1997; Canada data are from 1993–1997; Israel data are from 1995–1997; New Zealand data are from 1988–1997; Australia data are from 1994–1998; and England and Wales data are from 1993–1998.

with those of other nations. The firearm death rate for teenagers ages 15 to 17 in the United States is roughly 11 times the rate in Israel, and the rate for American teens ages 18 to 19 is 3 times the rate for Israeli teens of the same age. The United States firearm death rates for ages 15 to 17 and ages 18 to 19 are 4 to 8 times the respective rates in New Zealand, Canada, and Australia.[17]

In most of these other countries, the vast majority of firearm deaths among teenagers are suicides. Thus, these countries show very different patterns of risk than in the United States, where a majority of youth firearm deaths are homicides.[17]

Risk Factors for Death by Firearms

The general trends discussed above hold true for both males and females, and all racial and ethnic groups. Some youth are at greater risk for firearm death than others, however. This section reviews these risk factors in more detail, and estimates the risk that children born in 1998 will die from a firearm injury before they reach age 20. The section concludes with a brief discussion of the risk children face from school shootings.

Statistical analysis techniques that take into account demographic and geographic variables[18] reveal that, after adjusting for all other variables:

- *Older teens, ages 17 to 19,* are more likely than younger children to die from firearm-related injury, with firearm homicide accounting for substantially more deaths than suicide and unintentional death;
- *Males* are more likely than females to die from firearm homicide and suicide, and most markedly from unintentional firearm injuries;
- *Black and Hispanic youth* are much more likely than non-Hispanic white youth to die in firearm homicides; non-Hispanic white youth are more likely than Hispanic and black youth to die in suicides; and Hispanic and black youth are more likely than non-Hispanic white youth to die from unintentional firearm injuries;
- *Residing in a core metropolitan county* raises the risk for firearm homicide, but lowers the risk for firearm suicide. When compared with nonmetropolitan areas with city populations of less than 10,000, all other areas have a greater risk of firearm homicide, but a lower risk of suicides and unintentional firearm deaths.[19,20]
- *Residing in the Northeast region* of the country markedly lowers the risk for youth firearm homicide, suicide, and unintentional firearm deaths.

Age

The older children are, the more likely they are to risk death by firearm. Among infants, firearms were responsible for 5 deaths in 1998, and, as Figure 3 illustrates, fewer than 1 in 100,000 children under age 12 died from firearm wounds in 1997–1998.

But beginning around age 11, the death rate from firearms begins to rise. Among children ages 11 to 13, the firearm death rate doubled. By age 19, approximately 25 out of every 100,000 youths died of firearm injury. Twenty percent of all deaths to American teenagers ages 15 to 17, and 26% of deaths to those ages 18 to 19, resulted from firearm injury.

This pattern holds true for both homicide and suicide. The firearm homicide rate at age 18 (16 per 100,000) was 21 times the rate at age 12 (0.8 per 100,000) in 1998. Firearm suicide rates also increased sharply between the ages of 12 and 18, rising 18-fold to about 8 per 100,000 at ages 18 to 19.

Gender

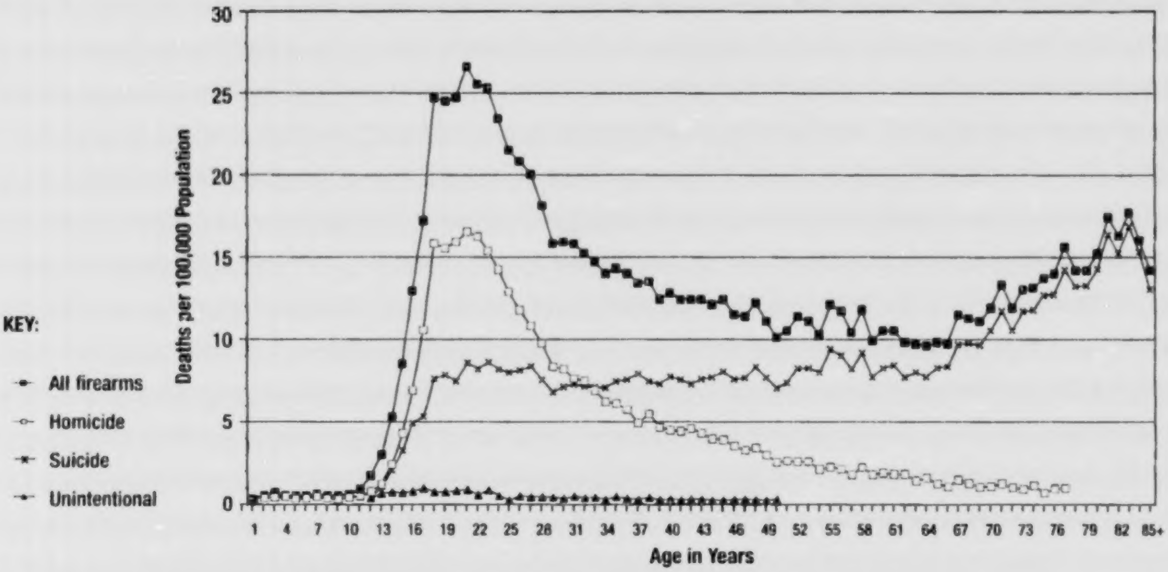
As Figure 4 shows, firearm death rates for males exceeded those for females in 1997–1998, and the differences grew with increasing age. This general trend holds true for both homicides and suicides. For children under age 11, firearm death rates for males were 1.4 times those for females; by age 15, the sex ratio was 5:1, and at age 19, it was 10:1.

Race

Minority youth are at significantly greater risk for firearm death than are non-Hispanic white youth. This is particularly true for black males. Black males ages 15 to 19 are much more likely to die from firearm wounds than are any other group of youth. The firearm death rate for these black males in 1998 was five times the rates for non-Hispanic white and Asian/Pacific Islander males, and twice the rates for Hispanic and American Indian males.

Figure 3

Firearm Death Rates by Age and Intent, 1997–1998



Source: National Center for Health Statistics, National Vital Statistics System.

Trends in death rates for black teenage males have mirrored the trends among all teenagers. In the early 1980s, for example, the firearm homicide rate for black male teenagers was about 30 per 100,000. By 1993, this rate had climbed to 130 per 100,000, an increase of more than 300%. The rate has fallen dramatically since then, to 63 per 100,000 in 1998, but this rate is still extremely high compared to the firearm homicide rate for non-Hispanic white male teenagers, which was just 3 per 100,000 in 1998. It is also high compared to the firearm homicide rate for Hispanic male teenagers, which was 29 per 100,000 in 1998.

Urbanization

Researchers who look at the risk of firearm death based on county of residence tend to classify counties by level of urbanicity.[19,20] "Core metropolitan counties" have more than one million residents and contain a large central city. "Fringe metropolitan counties" also have more than one million residents, but do not include a major city. "Small metropolitan counties" have fewer than one million residents. "Nonmetropolitan counties"—generally rural areas—have populations under one million and are divided into two categories: those with a city of 10,000 or more, and those without a city of 10,000.

Children under age 13 who live in nonmetropolitan areas are more likely to die from a firearm wound than are children in core or other metropolitan counties. However, firearm death rates in core metropolitan counties rise rapidly with increasing age. In 1996–1998, core county firearm death rates for ages 15 to 19 were more than twice the rates of those in the other metropolitan and nonmetropolitan counties.

Most urban teen deaths are homicides. Teens living in the most densely populated metropolitan counties are more likely to die from a firearm homicide than are children in other metropolitan or nonmetropolitan counties, whereas those in more rural counties have higher firearm suicide rates. These trends have held true for at least the past two decades.[21]

Geography

Figure 5 shows firearm death rates nationwide in 1996–1998 for the highest-risk age group, ages 15 to 19.[22] As the map makes clear, teens living in the West and South are more likely to die from a firearm wound than are teens in the Northeast and Upper Midwest. Louisiana had by far the highest teen firearm death rate—nearly 20% higher than any other state.

States show different patterns for homicide and suicide. In general, states in the South and West had higher teen firearm homicide rates compared with the rest of the nation, whereas the Upper Midwest and Great Plains/Rocky Mountain states had the lowest rates. Louisiana, Maryland, and Illinois had the highest firearm homicide rates.

On the other hand, the highest teen firearm suicide rates were in the Great Plains/Rocky Mountain states and Alaska, which had the highest rate in the country. New England and the Mid-Atlantic states had among the lowest firearm suicide rates.

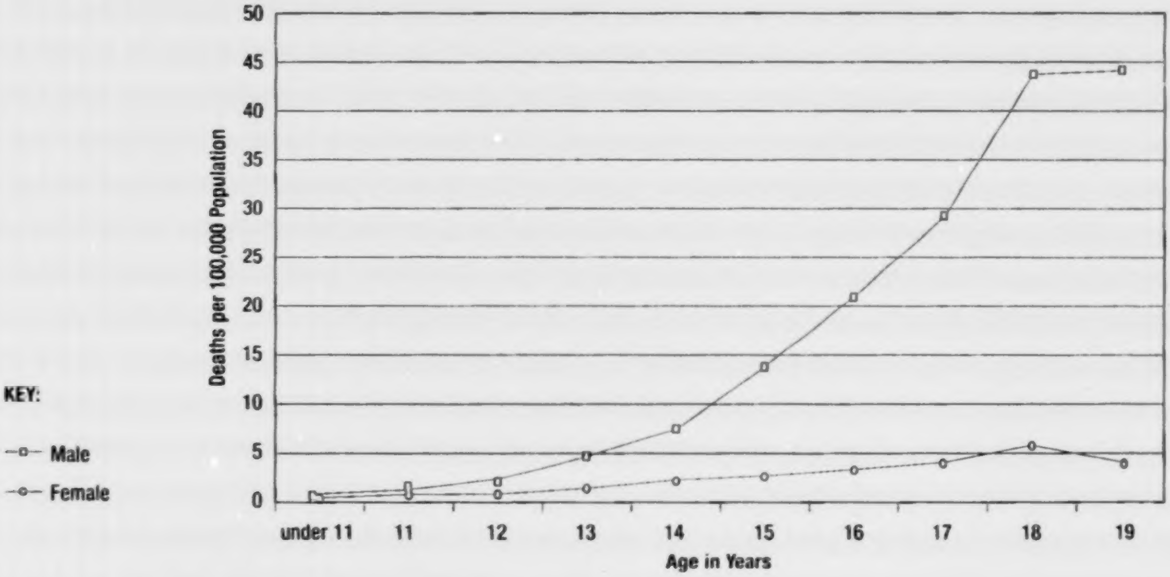
Developing a Cumulative Risk of Death

Table 1 shows the cumulative risk or probability of firearm death before age 20, by sex, for all youth, as well as for black and white males and females.[23]

For 100,000 children born in 1998, the chance of dying before age 20 as the result of a firearm-related injury would be 1 in 1,040; among black males, the risk would be 1 in 248.[24] For white males, the risk of firearm suicide

Figure 4

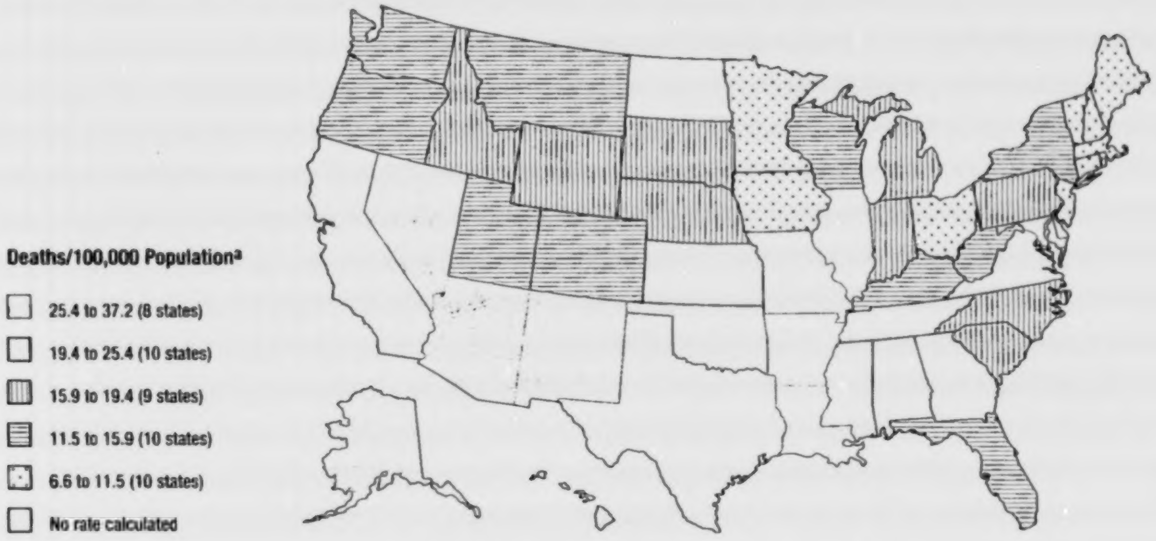
Firearm Death Rates by Age and Sex, 1997–1998



Source: National Center for Health Statistics, National Vital Statistics System.

Figure 5

Firearm Death Rates for Ages 15 to 19, 1996–1998



Source: National Center for Health Statistics, National Vital Statistics System.

[a] Maine, New Hampshire, Rhode Island, and Vermont each had fewer than 20 firearm deaths per year for the three years between 1996 and 1998 for teenagers ages 15 to 19, so a rate was estimated by pooling the data for the four states, thereby assuming similar risk. Three states—North Dakota, Hawaii, and Delaware—had fewer than 20 firearm deaths over the three years, so no rate was calculated because it would be unstable.

is higher than the risk of firearm homicide; for black males and for white and black females, firearm homicide risk exceeds suicide risk.

School Shootings

Despite the high-profile shootings at schools like Columbine High School in Littleton, Colorado, school shootings account for a very small percentage of all youth firearm deaths. In each year from 1993 to 1998, fewer than 1% of all firearm deaths among young people ages 5 to 19 occurred in schools. As Figure 6 shows, the annual number of school-related firearm deaths among young persons has fluctuated, at times due to multiple shootings in a single incident.[25] The number of deaths was higher in 1992–1993 than during any later academic year.

Nonfatal Firearm Injuries

For every child or teenager who died from a firearm-related injury in 1996–1998, more than four others sought care in an emergency department for a firearm injury. This section reviews the incidence of firearm injuries among children and youth under age 20, including trends and risk factors. While the data for firearm injuries are more limited than the data for firearm deaths,[26] generally the patterns are similar.

For the three-year period 1996–1998, the annual number of visits to the emergency department for firearm injuries among young people under age 20 averaged about 18,400, a rate of about 24 per 100,000. These annual estimates include about 8,900 visits that resulted in hospitalization, and another 9,500 that resulted in treatment and then release from emergency departments.[7]

Nonfatal firearm injuries were not among the leading causes of hospital or emergency department utilization among young people under age 20.[27] In addition, emergency department and hospital utilization rates for children and youth under age 20 with firearm injuries decreased nearly 50% from 1993 to 1998.

For the period 1995–1998, about 60% of the firearm-related emergency department visits among children and youth under age 20 were for injuries resulting from assaults, with an additional 20% from unintentional firearm injuries; for about 15% of these visits, intent was not stated. Fewer than 3% of the visits were related to intentional self-harm; this is because suicide attempts with firearms are completed more often than are attempts by other means.[28]

As with firearm death, age, gender, and race are major risk factors for firearm injury. From 1995–1998, about 85% of all firearm injuries treated in emergency departments or requiring hospitalization were among teenagers ages 15 to 19. Visit rates for males were 7 times those for females, and the average annual firearm injury rate for black youth was about 10 times that for non-Hispanic white youth. Hispanic youth were twice as likely as white youth to be injured.

For young persons under age 20, for every 4.4 visits to an emergency department during 1996–1998 because of a firearm injury, there was one firearm-related death. This ratio stands in sharp contrast to emergency department visits and deaths for nonfirearm injuries. In general, for young persons under age 20, the ratio of nonfirearm injury-related emergency department visits to deaths was 760:1. The very high proportion of deaths resulting from firearm injuries—when compared with all other injuries—reflects the extreme lethality of firearms.

Conclusion

The rate of firearm deaths affecting children and adolescents in the United States is too high, compared both with rates in other developed countries and with historical rates in this country. It is reasonable to aim to reduce the risk of firearm death among American youth to levels closer to those of their peers in other nations.

Table 1

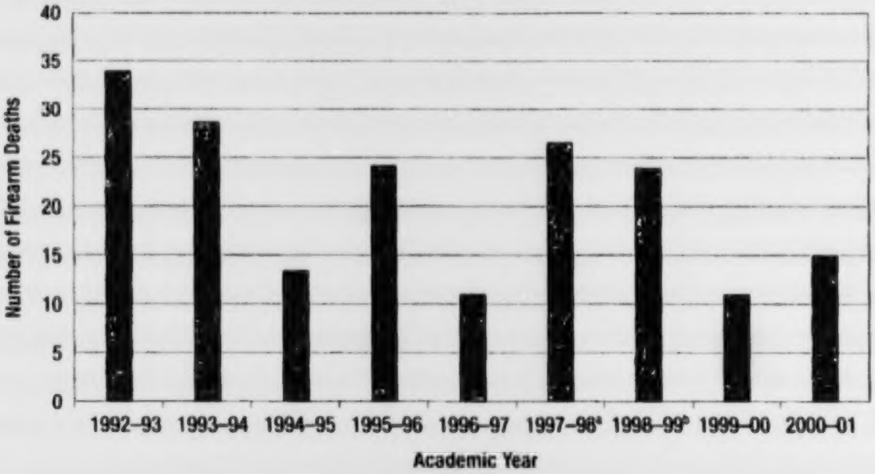
Cumulative Risk of Firearm Death before Age 20 by Race, Sex, and Type of Gun Death: 1998

	Risk of death due to:			
Race/sex group	Any Firearm 1 out of	Firearm Homicide 1 out of	Firearm Suicide 1 out of	Firearm Unintentional 1 out of
Both sexes, all	1,040	1,806	3,180	15,015
Males				
White	869	2,172	1,807	9,756
Black	248	301	2,471	5,394
Females				
White	4,228	8,251	10,267	68,493
Black	1,772	2,196	15,873	30,675

Sources: Based on data in Murphy, S.L. Deaths: Final data for 1998. *National vital statistics reports.* Vol. 48, no. 11. Hyattsville, MD: National Center for Health Statistics, 2000; and Anderson, R.N. United States life tables, 1998. *National vital statistics reports.* Vol. 48, no. 18. Hyattsville, MD: National Center for Health Statistics, 2001.

Figure 6

Firearm Fatalities in School-Related Settings among Children and Teenagers Ages 5 to 19, 1992–1993 through 2000–2001



Source: National School Safety Center, School-Associated Violent Deaths Report. Available online at http://www.nssc1.org.

[a]At least two incidents in which more than two students were shot
[b]One incident with 14 victims

The rise and fall of youth firearm homicides in recent decades reflects a still poorly understood interplay of factors, but suggests that modifiable factors affect firearm death rates. These may include changes in firearm ownership, storage, or carrying rates and practices, as well as police enforcement measures. (See the article by Fagan.) This should encourage ongoing—indeed, intensified—prevention efforts in the years to come, using sound and comprehensive data on youth death and injury rates, and including rigorous evaluations.

To reduce firearm deaths and injuries among children, it will be necessary to develop a broad repertoire of approaches—in the public health, criminal justice, and educational spheres. Clear demographic and geographic factors are associated with risk of firearm injury and death for children and youth in the United States. Researchers should use this knowledge to focus prevention efforts on higher-risk groups and areas, and to focus their research on understanding what factors protect lower-risk groups and areas.

Finally, the available data on firearm injuries are not yet adequate to the tasks of monitoring injury prevalence, analyzing details of injury and fatality incidents, and evaluating intervention strategies. Continued progress toward reducing the burden of firearm injuries affecting children and youth will require better data systems that integrate data from a variety of existing sources, such as vital statistics, health care systems, and the criminal justice system.[29]

Every year, more than 20,000 children and youth in the United States are killed or injured by firearms, and countless more are touched by firearm violence. These deaths and injuries are preventable and unnecessary. By building on the decline in firearm deaths in recent years, researchers and policymakers can help ensure that more American children will live to see adulthood.

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2. American Academy of Child and Adolescent Psychiatry. *Children and guns* (Policy Statement 44). Elk Grove Village, IL: AACAP, October 28, 2000; American Academy of Child and Adolescent Psychiatry, *Firearm-related injuries affecting the pediatric population* (Violence-Related Policy Statement RE9926). Elk Grove, IL: AACAP, April 2000; American College of Emergency Physicians. *Firearm injury prevention* (Policy 400233). Irving, TX: ACEP, February 2001. Available online at http://acep.org/1,570,0.html; Ginsburg, J.A. *Firearm Injury Prevention* (Position Paper of the American College of Physicians). Washington, DC: ACP, January 1998; American Medical Association, House of Delegates. *Firearms: Safety and regulations* (Policy Compendium H-145.000). Chicago, IL: AMA, 1998. Available online at http://www.ama-assn.org/apps/pf_online/pf_online; American Psychological Association. *Firearm Safety and Youth (Resolutions Related to Children, Family, and Youth)*. Washington, DC: APA, 1998. Available online at http://www.apa.org/pi/cyfres.html#fire; and American Public Health Association. *Handgun injury reduction* (APHA Policy Statement 9818). Washington, DC: APHA, January 1998. Available online at http://www.apha.org/legislative/policy/policysearch/index.cfm?fuseaction=view&id=170.

3. National Center for Health Statistics, National Vital Statistics System, based on data analyses of the public use mortality data tapes. Documentation is available online at http://www.cdc.gov/nchs/about/major/dvs/mcd/msb.htm.

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8. For data from 1968 through 1978, this article uses the following International Classifications of Disease (ICD) codes: E922 for unintentional injuries; E955 for suicide; E965 for homicide; E970 for legal intervention; and E985 for undetermined intent. See National Center for Health Statistics. *International Classification of Diseases, adapted for use in the United States*. 8th rev. Vol. 1. Washington, DC: U.S. Government Printing Office, 1967. For data from 1979 through 1998, this article uses the following ICD codes: E922 for unintentional injuries; E955 (.0–.4) for suicide; E965 (.0–.4) for homicide; E970 for legal intervention; and E985(.0–.4) for undetermined intent. See World Health Organization. *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death: Based on the recommendation of the Ninth Revision Conference, 1975, and adopted by the Twenty-ninth World Health Assembly*. Geneva: WHO, 1977. In ICD-8, codes for firearm suicide, homicide, and undetermined intent included explosives. However, based on analysis of deaths using ICD-9 codes, death rates from explosives for persons under age 20 were less than 0.1 per 100,000.

9. For clarity, mortality and morbidity rates in the text are rounded to the nearest whole number (unless the rate is less than 1), but relative changes in rates were calculated based on unrounded rates.

10. Homicides for this age group that do not involve firearms are most commonly committed with knives or other instruments for stabbing or cutting, and, to a lesser extent, suffocation. In suicides, the two other primary mechanisms are suffocation (hanging) and, for those ages 15 to 19, poisoning. See note no. 3, National Center for Health Statistics.

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16. Krug, E.G., Dahlberg, L.L., and Powell, K.E. Childhood homicide, suicide, and firearm deaths: An international comparison. *World Health Statistics Quarterly* (1996) 49(3-4):230–35.

17. Unpublished data from participants in the International Collaborative Effort on Injury Statistics.

18. To estimate the independent effects of demographic and geographic variables on firearm mortality, multivariate logistic regression models were fit using the SAS procedure, GENMOD, to generate adjusted mortality odds ratios for the risk of firearm homicide, suicide, and unintentional death.

19. To describe death patterns by level of urbanization, the decedent's county of residence was used. Counties were assigned to one of five urbanization levels based on their classification in the Urban Influence code system (December 1996 revision) devel-

oped by the Economic Research Service, U.S. Department of Agriculture. County-level codes were then linked to the Vital Statistics files. For Vital Statistics files, see Ghelfi, L.M., and Parker, T.S. A county-level measure of urban influence. *Rural Development Perspectives* (February 1997) 12(2):32–41; and National Center for Health Statistics. *Health, United States, 2001 chartbook.* Hyattsville, MD: NCHS, 2001.

20. The metropolitan county categories are those used by the National Center for Health Statistics: a) core counties, those large central counties with one million or more population that contain the largest central city of the Metropolitan Statistical Area/Primary Metropolitan Statistical area; b) fringe counties also with one million or more population but that do not contain any part of the largest central city; and c) small counties with less than one million population. Nonmetropolitan counties were divided into two categories: a) those with a city of 10,000 or more population, and b) those without a city of 10,000 or more population. See note no. 3, National Center for Health Statistics, National Vital Statistics System, and note no. 19, National Center for Health Statistics.

21. Fingerhut, L.A., Ingram, D.D., and Feldman, J.J. Homicide rates among U.S. teenagers and young adults—differences by mechanism, level of urbanization, race and sex, 1987–1995. *Journal of the American Medical Association* (1998) 280(5):423–27; MacKay, A.P., Fingerhut, L.A., and Duran, C.R. *Adolescent health chartbook. Health, United States, 2000.* Hyattsville, MD: National Center for Health Statistics, 2000; and Cubbin, C., Pickle, L.W., and Fingerhut, L.A. Social context and the geographic patterns of homicide in black and white males in the United States. *American Journal of Public Health* (2000) 90:579–87.

22. Maine, New Hampshire, Rhode Island, and Vermont each had fewer than 20 firearm deaths per year for the three years between 1996 and 1998 for teenagers ages 15 to 19, so a rate was estimated by pooling the data for the four states, thereby assuming similar risk. Three states—North Dakota, Hawaii, and Delaware—had fewer than 20 firearm deaths over the three years, so no rate was calculated because it would be unstable.

23. This is not to be confused with another often-calculated measure—the probability of *eventually* dying from a firearm death.

24. To calculate the cumulative risk of firearm death, age-specific life table deaths due to firearm injuries were calculated for 1998 using abridged National Center for Health Statistics life tables and data on race-, sex-, and age-specific firearm deaths. See note no. 4, Murphy; and Anderson, R.N. United States life tables, 1998. *National vital statistics reports.* Vol. 48, no. 18. Hyattsville, MD: National Center for Health Statistics, 2001. A life table death shows, for each 5-year age interval in the abridged life table, the number dying out of the hypothetical cohort of 100,000 born alive at the beginning of the time period (1998 in this case). These deaths are then multiplied by the percentage of all deaths due to firearms to derive the number of life table firearm deaths. Next, the firearm-specific life table deaths from birth up to age 20 are summed and divided by 100,000 (the number of persons born alive). The reciprocal of the life table death rate can be interpreted as the odds of firearm death before age 20.

25. These data are based solely on newspaper accounts, and as a result may not be complete. A complete listing of school-associated violent deaths may be found online at http://www.nssc1.org.

26. The National Hospital Discharge Survey (NHDS) could not be used to directly estimate the number of hospitalizations resulting from firearm injuries because not all states routinely collect external cause of injury codes (E-codes) in their hospital discharge data systems. As of 1998, only 26 states mandated and another 5 to 6 states routinely collected E-codes in their hospital discharge data. See Dennison C., and Pokras, R. Design and operation of the National Hospital Discharge Survey: 1988 redesign. *Vital Health Statistics* (2000) 1(39):1–42. As a result, the NHDS does not have E-codes for about 30% of all records with a principal diagnosis of injury. However, indirect estimates of persons hospitalized for nonfatal firearm injuries were based on the 70% of records that had E-codes, and the Centers for Disease Control and Prevention Firearm Injury Surveillance Study (FISS) corroborated those estimates. Among the variables collected in the FISS is "disposition of visit." FISS data are obtained from the National Electronic Injury Surveillance System (NEISS), managed by the Consumer Product Safety Commission. NEISS collects nationally representative data for persons treated in emergency departments. The annual numbers of cases "hospitalized," "transferred/released," or "transferred/hospital" were summed to estimate the total number of hospitalized firearm injury cases. The estimated number of hospitalized cases from the FISS was statistically similar to the number derived from the NHDS.

27. As estimated by L.A. Fingerhut based on data from Hank Weiss, University of Pittsburgh; Ted Miller and Bruce Lawrence, Children's Safety Network; and Robert Pokras, chief of the Hospital Care Statistics Branch at the National Center for Health Statistics. See also McCaig, L.F. *National Hospital Ambulatory Medical Care Survey: 1998 emergency department summary.* Advance data from vital and health statistics; no. 313. Hyattsville, MD: NCHS, 2000.

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APPENDIX

Sources of National Firearm Mortality and Morbidity Data

	Ownership	Coverage	Geographic Detail	Data Years	Limitations
Firearm Death:					
National Vital Statistics System[a,b] http://www.cdc.gov/nchs/about/major/dvs/mortdata.htm	Centers for Disease Control and Prevention, National Center for Health Statistics	Census of all deaths in the United States	National, state, county, and city	1968–1998	Death certificates have limited information on the circumstances of injury deaths; often no detail is given on the type of firearm and no information on perpetrators.
Firearm Injury:					
Firearm Injury Surveillance Study[c,d] http://www.icpsr.umich.edu:8080/ABSTRACTS/03018.xml?format=ICPSR	Consumer Product Safety Commission, National Electronic Injury Surveillance System; Centers for Disease Control and Prevention, National Center for Injury Prevention and Control	Ongoing surveillance system based on a national sample of persons visiting emergency departments	National estimates only	1993–1998	Only national estimates; about 50% of cases are missing information on perpetrators.
National Hospital Ambulatory Medical Care Survey (Emergency Department)[e] http://www.cdc.gov/nchs/about/major/ahcd/ahcd1.htm	Centers for Disease Control and Prevention, National Center for Health Statistics	National sample survey of visits to emergency departments	National and regional	1993–1999	Sample size is too small to make reliable annual estimates of visits for firearm injuries; includes repeat visits by same person, thus counts visits rather than people.
National Hospital Discharge Survey[f] http://www.cdc.gov/nchs/about/major/hdasd/nhds.htm	Centers for Disease Control and Prevention, National Center for Health Statistics	National sample survey of inpatient hospital discharges	National and regional	1996–1999	Incomplete documentation in record of external causes of injury; includes repeat hospitalizations by same person, thus counts discharges rather than people.

[a] Murphy, S.L. Deaths: Final data for 1998. *National vital statistics reports.* Vol. 48, no. 11. Hyattsville, MD: National Center for Health Statistics, 2000.

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[c] Gotch, K.E., Annest, J.L., Mercy, J.A., and Ryan, G.W. Surveillance for fatal and nonfatal firearm-related injuries—United States, 1993–1998. In CDC Surveillance Summaries, April 13, 2001. *Morbidity and Mortality Weekly Report* (2001) 50(No. SS-2):1–44.

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[f] Dennison, C., and Pokras, R. Design and operation of the National Hospital Discharge Survey: 1988 redesign. *Vital Health Statistics* (2000) 1(39):1–42.

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Youth, Guns, and Violent Crime

Alfred Blumstein

SUMMARY

Young people are overrepresented as both victims and perpetrators of violence. Indeed, some commentators have suggested that recent cohorts of youth have been composed of "superpredators" who have little regard for human life. The evidence, however, suggests that other factors are responsible for recent increases in youth gun violence.

This article analyzes the extent and causes of youth violence in the United States, paying particular attention to the late 1980s and early 1990s, when rates of homicide and robbery committed by youth rose to extremely high levels. Examination of trends for these crimes shows that:

- The increase in violence in the United States during the late 1980s and early 1990s was due primarily to an increase in violent acts committed by people under age 20. Similarly, dramatic declines in homicide and robbery in recent years are attributable primarily to a decline in youth violence.
- The increase in youth homicide was predominantly due to a significant increase in the use of handguns, which converted ordinary teenage fights and other violent encounters into homicides.
- Several other interrelated factors also fueled the rise in youth violence, including the rise of illegal drug markets, particularly for crack cocaine, the recruitment of youth into those markets, and an increase in gun carrying among young people.

The author points out that youth violence diminished as the crack markets shrank, law enforcement increased efforts to control youth access to guns, youth gun carrying declined, and the robust economy provided legitimate jobs for young people.

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The period from 1985 to 2000 saw some sharp swings in the rate of violence in the United States. Much of that swing is attributable to changes in violence committed by young people, primarily against other young people. Beginning in 1985, the rates of homicide and robbery committed by people under age 20 began to rise dramatically, as did the use of handguns to commit those crimes. This increase in violence peaked in the early 1990s, then fell significantly by the end of the 1990s.

Although youth violence has declined in recent years, a rash of school shootings in the late 1990s generated significant public concern and attention from policymakers.[1] This concern is not new—rhetoric about violent youth has captured public attention over the last two decades. Accordingly, federal and state legislators have sought to impose stiffer penalties on youth who are found guilty of violent crimes, by mandating, for instance, that juveniles who commit violent crimes be tried in adult court rather than juvenile court.[2] In particular, in 2000 California voters passed, by a two to one majority, Proposition 21, which increases the range of offenses for which juvenile offenders as young as age 14 will be tried and sentenced as adults.

This punitive response to youth violence follows from public rhetoric that labeled a whole generation of youth as "superpredators."[3] This labeling occurred during the peak of the youth violence epidemic, partly in response to outrageous killings by very young people. The superpredator label suggested that the new generation of young people were out of control, beyond redemption, and had little regard for human life or victims' pain and suffering. Some commentators argued that particularly aggressive steps were needed to keep them under control.

Whether this is an appropriate response to youth violence depends upon the answers to two key questions. First, to what degree was the increase in violence of the late 1980s and early 1990s attributable to youth? Second, to what degree was that growth attributable to a new group of superpredator youth who were inherently more violent than previous generations of young people?

Through examination of homicide and robbery[4] arrest trends for different age groups,[5,6] this article will show that, in fact, youth were primarily responsible for the increase in violence during those years. However, the available evidence indicates that an emergence of superpredators did not contribute significantly to the rise in youth violence. Rather, several interrelated factors more likely fueled the youth violence epidemic—most notably the rise of inner-city drug markets that recruited large numbers of young people in the late 1980s and the associated availability and use of handguns by those youth. Drugs and guns intersected in America's inner cities, leading to a rapid increase in violence among minority youth.

Young People's Contribution to the Violence Epidemic

Despite public perceptions about increased crime and violence in the United States, a detailed examination of homicide and robbery rates from 1965 through 2000 shows that these rates have not changed dramatically over time. What has changed is the number of homicides committed by young people. Indeed, the increase in homicide rates in the late 1980s and early 1990s was driven entirely by a rise in youth homicide with handguns.

Homicide Rates among the General Population

The homicide rate in the United States oscillated between 8 and 10 per 100,000 population from 1970 to 1995, as Figure 1 shows.[7] In 1980, it peaked at 10.2 murders per 100,000 population, and by 1985 it had fallen to 7.9. It then climbed a full 24% to reach a peak of 9.8 in 1991, and has been declining markedly since then, reaching 5.5 in 2000. The last change represents a drop of 44% since 1991, to a level that is lower than any annual rate since 1965.[8] The robbery rate has followed a very similar pattern, reaching its peaks and troughs within one year of those of the murder trends. The robbery rate has also displayed a steady decline since its 1991 peak, and the 2000 rate is lower than any since 1968.

Despite the fairly sharp swings depicted in Figure 1, it is striking how flat the trend lines for homicide and robbery were before the declines of the 1990s. Homicide and robbery rates jumped up and down from year to year, but they did not change dramatically between 1970 and 1993. The stability of these

Drugs and guns intersected in America's inner cities, leading to a rapid increase in violence among minority youth.

rates stands in marked contrast to the general view of the American public—and the rhetoric of many political candidates, who suggested throughout the 1990s that crime rates were getting out of hand and that crime was becoming an increasingly serious threat.[9] Indeed, even the steady decline in violent crime rates since 1993 has not fully eased these concerns.

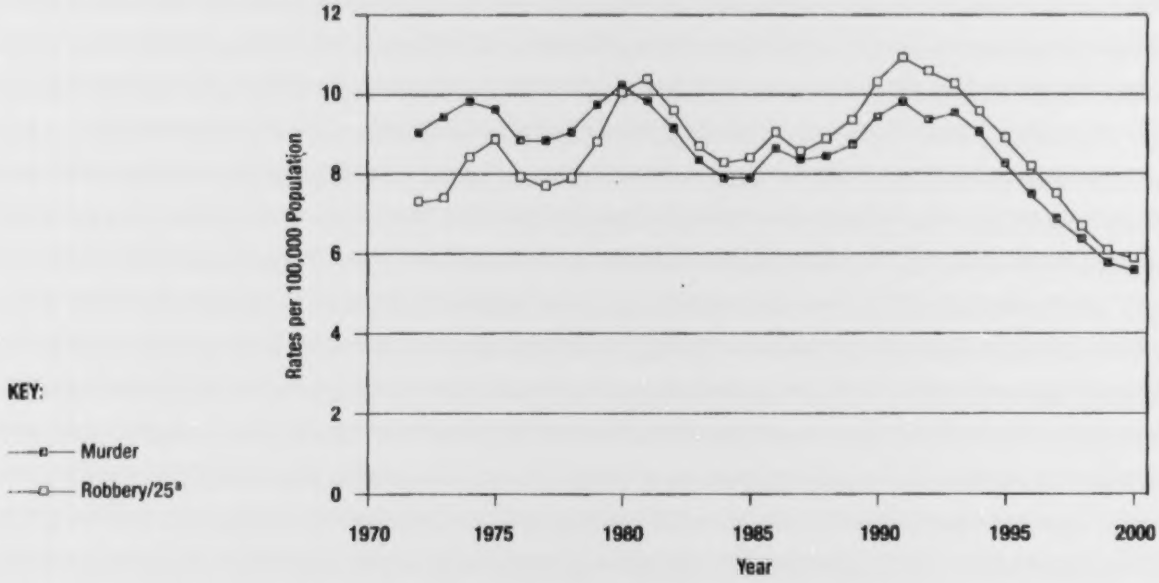
However, the aggregate homicide rates presented in Figure 1 do not take into account the diverse factors that contribute to the overall trend. As the next section of this article makes clear, the increase in the homicide rate in the late 1980s and early 1990s was due to multiple, interactive, and sometimes countervailing influences. This is particularly true with respect to age of the perpetrator. During the late 1980s, when the total number of homicides was increasing rapidly, homicides by young people (ages 24 and under) increased, but homicides by older people actually decreased.

Youth Offenders' Disproportionate Contribution to the Homicide Rate

When the homicide rate is disaggregated by age, it becomes clear that the increase in homicide after 1985 was driven almost entirely by a significant increase in

Figure 1

Trends in Murder and Robbery^{a} Rates in the United States, 1972–2000

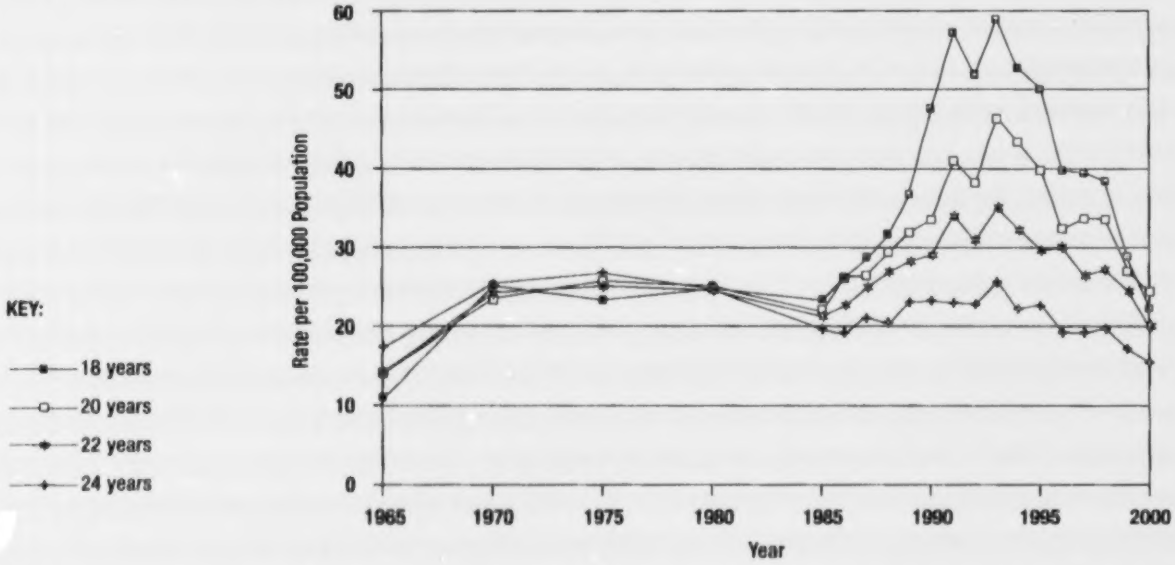


Source: Unpublished tabulations based on U.S. Department of Justice, Federal Bureau of Investigation. *Crime in the United States: Uniform crime reports (year).* Washington, DC: U.S. Government Printing Office, and population estimates from the U.S. Census Bureau.

[a] The robbery rate is scaled down by a factor of 25 to put it on the same scale as murder to permit easy visual comparison of the two data series.

Figure 2

Trends in Murder Arrest Rates by Age



Source: Unpublished tabulations based on U.S. Department of Justice, Federal Bureau of Investigation. *Crime in the United States: Uniform crime reports (year).* Washington, DC: U.S. Government Printing Office, and population estimates from the U.S. Census Bureau.

homicides committed by juveniles (those under age 18) and youth (those between the ages of 18 and 24). Figure 2 presents time trends in the murder arrest rate for individual ages that traditionally have accounted for the highest homicide arrest rates: ages 18 through 24. As the figure shows, those rates were quite similar from 1970 through 1985, when a major divergence began. Although the homicide rate for 24-year-olds did not increase significantly over the next few years, the rate for 18-year-olds more than doubled by 1991 (with an annual growth rate of 16% during this period). The rate dropped in 1992, reached a new peak in 1993, and then declined vigorously in all the succeeding years.

The pattern for young people ages 18 and under, shown in Figure 3, is very similar to the pattern at age 18, except that the rate is lower for each younger age. For all ages below 20, the 1993 homicide arrest rate was more than double the 1985 rate. For example, the murder arrest rate for 15-year-olds in 1993 was triple what the rate had been in 1985.

In contrast, adults have displayed a continuing decline in homicide arrest rates since the mid-1970s. By 1993, when homicide arrests among young people reached their peak levels, arrest rates among the over-30 population had declined by about 20% from the 1985 level. The decline continued into the 1990s, and by 2000 it had reached a level about 50% below the 1985 rate.

Thus, the 1991 peak in aggregate homicide rates came about solely because of increased violence by youth under age 25; homicide rates for youth were increasing much faster than the rates for adults over age 25 were declining.[10] Because homicide rates for young and old offenders alike decreased after 1993, the aggregate rate continued to fall—and fall rapidly. The decrease since 1993 is due to both the recent sharp drop in violent crime among young people, and to the continuing decline in violent crime among older persons.

Racial Differences in the Homicide Rate

In addition to age differences, there were important racial differences in the growth of homicides—particularly an increase in homicides among young African Americans, both as offenders and as victims. Figure 4 depicts the rise in handgun homicides committed by youth ages 18 to 24.[11] Among African Americans, handgun use grew much more sharply than for youth generally; the number of handgun homicides among African Americans in this age group nearly tripled from 1984 to 1993. Although some growth also occurred in handgun homicides by white and Hispanic youth, that increase was far less dramatic. Among all youth, there was no comparable growth in the use of other weapons to commit homicides.

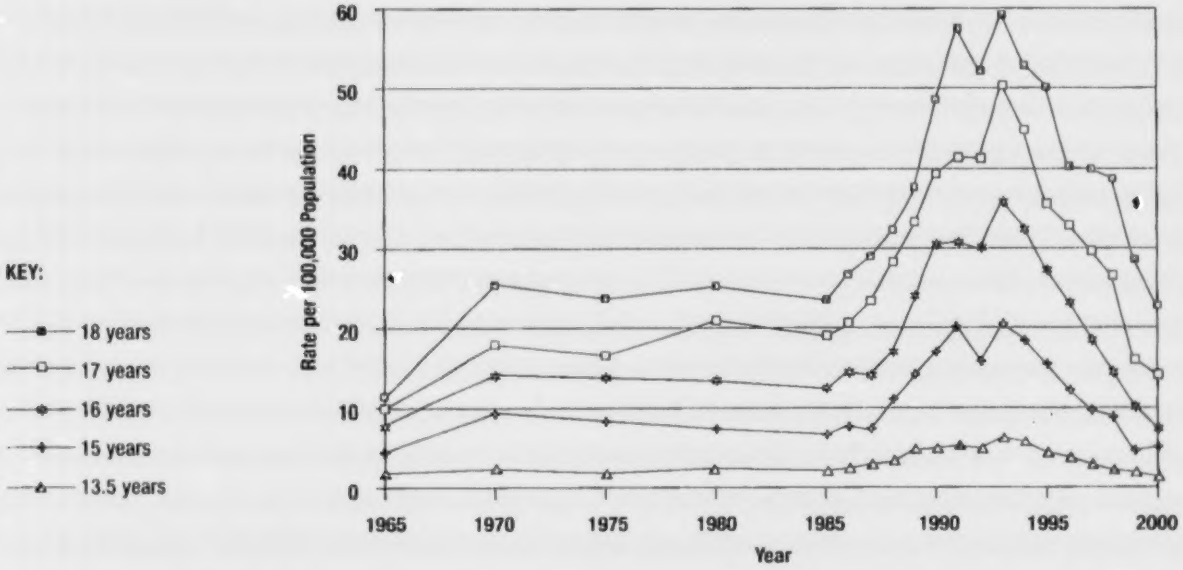
What accounted for the dramatic rise in youth gun violence in the late 1980s and early 1990s, particularly among African American youth? The next section of this article offers some possible explanations for the recent rises and falls in the youth homicide rate.

Factors Contributing to the Youth Violence Epidemic

Though the superpredator theory has attracted widespread public attention, other factors—most notably the availability of handguns, increased weapon carrying among young people, and the explosive growth

Figure 3

Trends in Murder Arrest Rates, Ages 18 and Under



Source: Unpublished tabulations based on U.S. Department of Justice, Federal Bureau of Investigation. *Crime in the United States: Uniform crime reports (year).* Washington, DC: U.S. Government Printing Office, and population estimates from the U.S. Census Bureau.

of illegal drug markets—more likely fueled the increase in youth homicide. This section reviews each of these factors in detail.

The Role of Handguns

Since 1985, the weapons involved in settling disputes among young people have changed dramatically, from fists or knives to handguns. Youth use of handguns to commit suicides and robberies also has risen significantly. More recently, young people have begun to use semiautomatic pistols with much greater firepower and lethality, as discussed in the article by Wintemute in this journal issue.

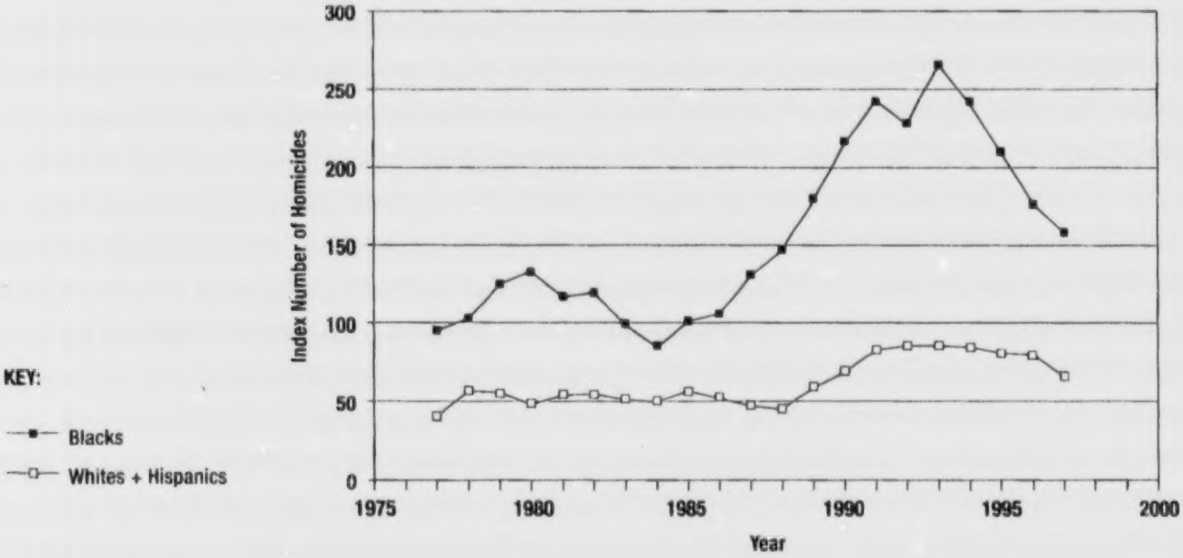
The growing use of lethal handguns is reflected in changes in the weapons involved in homicides by young people in different race and age groups. Beginning in 1985, there was a sharp growth in the firearm homicide rate among young people. That rise in firearm homicides changed what had been a flat trend in homicides committed by youth to a sharply rising one—with the rise sharpest for youth ages 18 and under, as shown in Figure 3. There was no comparable growth in homicides committed with other weapons. This suggests that the use of handguns, rather than an increase in violent attitudes among young people, is largely responsible for the increase in violent crime in the late 1980s and early 1990s.

A review of the weapons used in homicides committed by young people, especially those under age 18, clearly shows this sharp rise in the use of firearms to commit homicides.[12] Figure 5 shows time trends in

Figure 4

Trends in Handgun Homicides by Youth, Ages 18 to 24

1985 Handgun Homicides by Black Youth = 100[a]



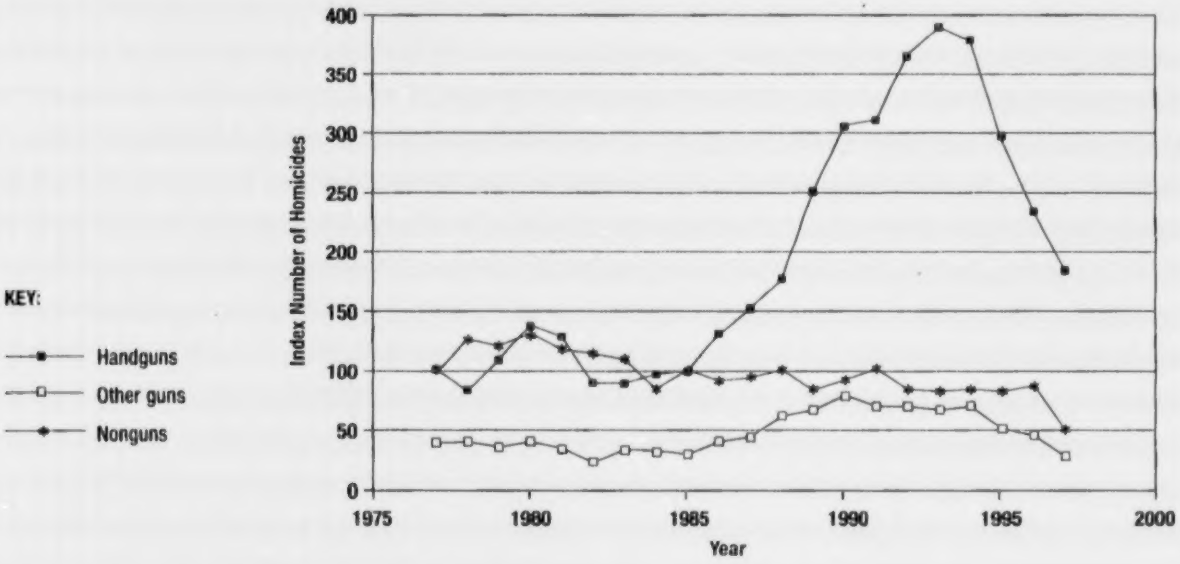
Source: Unpublished tabulations based on U.S. Department of Justice, Federal Bureau of Investigation, Supplementary Homicide Reports.

[a] This figure uses an index scale, with the number of handgun homicides by black youth in 1985 being assigned an index number of 100. Thus, the number of handgun homicides in any year is relative to the number of homicides with handguns by black youth in 1985.

Figure 5

Trends in Homicide Weapons by Juveniles, Ages 17 and Under

1985 Handguns = 100[a]



Source: Unpublished tabulations based on U.S. Department of Justice, Federal Bureau of Investigation, Supplementary Homicide Reports.

[a] This figure uses an index scale, with the number of handgun homicides in 1985 being assigned an index number of 100. Thus, the number of homicides by any weapon type and in any year is relative to the number of homicides with handguns in 1985.

weapons used to commit homicide by offenders under age 18.[13] The weapons are classified into three groups: handguns, other guns, and nonguns (which includes knives, sticks, or hands).[14]

As Figure 5 illustrates, no clear trend in the use of handguns emerged until after 1985; then handgun use grew significantly, to almost four times the 1985 rate. The rise and decline are consistent with the rise and decline in homicide arrest rates shown in Figure 3. For youth ages 18 to 24, there was a similar but smaller growth in handgun use; by 1993, the use of handguns to commit homicides had increased 128% over 1985 levels.

In contrast, a similar graph for adults would show a general downward trend in homicides by all weapons, especially by handguns more recently. Overall, however, there has been little change over the years in the mix of weapons used by adults in homicides.

Furthermore, the use of other types of guns or nongun weapons to commit homicides has not increased appreciably, either among adults or youth. In fact, nongun homicides among all age groups declined steadily by 40% to 50% from 1985 to 1997. Thus, although handguns have been substituted for other weapons to some degree, the absolute magnitude of nonhandgun decline is still small compared with the dramatic growth in the use of handguns by juveniles.

Not only did young people under age 25 account for all of the growth in homicides in the post-1985 peri-

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od, but that growth stemmed entirely from the increase in homicides committed with handguns. Furthermore, most of the growth was accounted for by youth under age 20. Clearly, the sharp rise in the use of handguns in youth and juvenile homicide is crucial in explaining the increase in the aggregate homicide rate in the late 1980s and early 1990s. Comparably, the more recent sharp decrease in handgun homicides by young people is an important factor in the overall decline since the early 1990s.[15]

Firearms have also played an important role in the growth in robberies. No incident-based data source is available for robberies as it is for homicides, but the aggregate statistics indicate a clear rise in the fraction of robberies committed with firearms from 1989 to 1991. During that time—precisely the period when there was a major increase in young people's involvement in robbery—the total rate of firearm robberies increased by 42%. Over the same period, the rate of nonfirearm robberies increased by only 5%.

These observations suggest that the growth in homicides by young people was attributable much more to the weapons that found their way into their hands than to the emergence of inadequately socialized cohorts of superpredators, as some have claimed. If the cohorts were indeed more vicious, then one would expect to see an increase in homicide with all forms of weapons, rather than just handguns. The findings strongly suggest that teenagers committed crimes and fought as they always had, but that the greater lethality of handguns led to a greater number of disputes resulting in homicides. It was the availability of handguns, rather than a new generation of superpredators, that contributed to the growth in youth violence.

Trends in Weapons Carrying

Throughout the late 1980s and early 1990s, an increasing number of young people carried handguns, likely helping to fuel a rise in youth homicide rates. Even though federal law prohibits the sale of handguns to people under age 21 or possession of handguns by juveniles, it is surprisingly common for young people to carry guns. For example, an estimated 10% of male high school students have carried a gun in the previous 30 days. Gun carrying is even more common in high-crime areas, where 25% of male teenagers carry guns, and among high-risk groups. More than 80% of male juvenile offenders report having possessed a gun.[16]

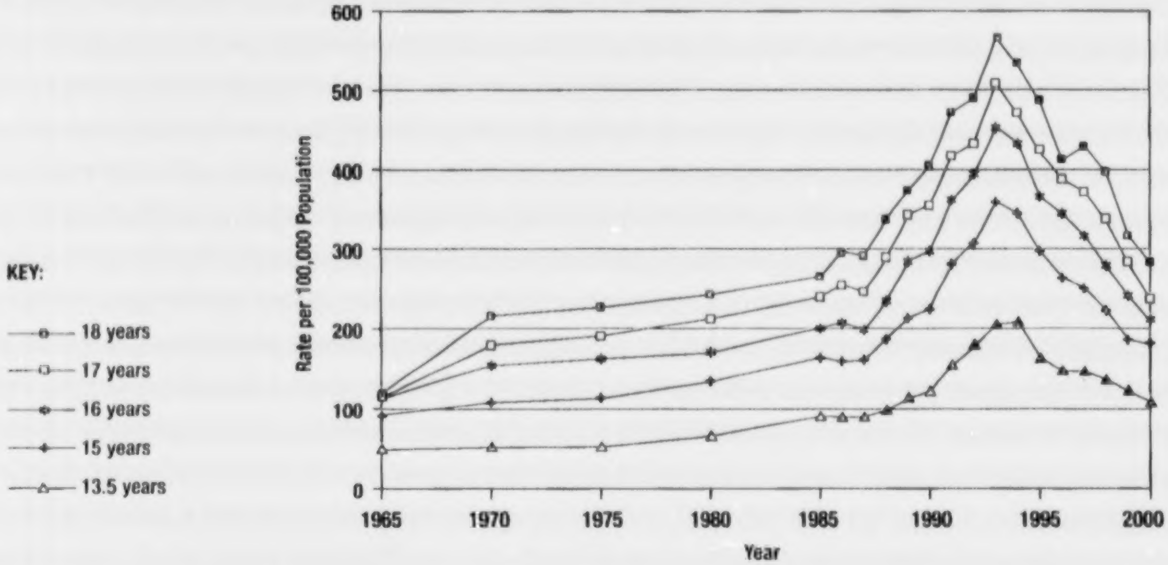
Young people who carry guns report that their major reason for doing so is concern for their own safety. In one national survey, 43% of high school students who reported carrying a gun within the past 12 months claimed they carried it primarily for protection.[17] However, when disputes arise, no matter how minor, youth who carry guns may use them preemptively, especially if they suspect that their adversaries also have guns.

One important indicator of the extent of youth gun carrying is the arrest rate for weapons charges. Figure 6 depicts the trends over time in the rates of arrest for weapon possession for young people ages 18 and under. The pattern is strikingly similar to the homicide patterns depicted in Figure 3 for the same ages. The weapons arrest trends show a relatively flat period of slight growth until about 1985, a sharp rise to a distinct peak in 1993, and a clear decline after that.

The increases in weapons arrests shown in this graph likely resulted from a combination of an increase in illegal weapon carrying and changes in police aggressiveness in pursuing illegal weapons. Indeed, police aggressiveness in detecting youth gun carrying and confiscating guns is an important means of reducing gun homicides. (See the article by Fagan in this journal issue.) One group of researchers found that concern about arrest and its consequences was one of the major considerations in decisions by delinquent adolescents not to carry a gun.[16] It is likely that aggressive stop-and-frisk tactics by local police, and the growth of community groups taking an active hand in negotiating truces among gangs and seeking to establish community norms against gun carrying, contributed to the reduction in the carrying of guns. This reduction, which in turn meant that other young people felt less need to carry guns for self-protection, seems to have been an important factor in the decrease in homicide and robbery by youth in the mid- to late 1990s.

Figure 6

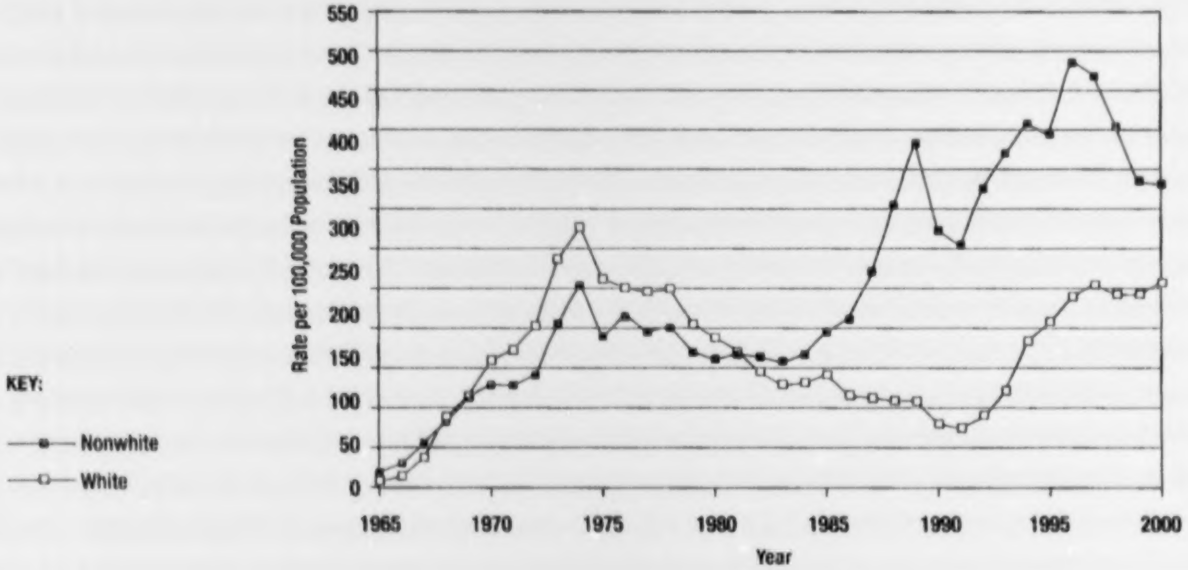
Trends in Weapons Arrest Rates, Ages 18 and Under



Source: Unpublished tabulations based on U.S. Department of Justice, Federal Bureau of Investigation. *Crime in the United States: Uniform crime reports (year).* Washington, DC: U.S. Government Printing Office, and population estimates from the U.S. Census Bureau.

Figure 7

Trends in Drug Arrest Rates, Ages 17 and Under



Source: Unpublished tabulations based on U.S. Department of Justice, Federal Bureau of Investigation. *Crime in the United States: Uniform crime reports (year).* Washington, DC: U.S. Government Printing Office, and population estimates from the U.S. Census Bureau.

The Role of Drug Markets

The rise of illegal drug markets—most notably markets for crack cocaine—also was a likely factor behind the increase in youth gun homicide, especially among African American young people in the inner city. When youth involved in illegal drug markets began carrying guns for protection and dispute resolution, other young people within the community began carrying guns as well. This diffusion of guns from the drug markets into the larger community led to an increase in gun carrying, resulting in more gun homicides.

The Rise of Juvenile Involvement in the Drug Markets

A serious drug problem, fueled by the introduction of crack cocaine into urban areas, began to emerge in the United States in the early 1980s, and then accelerated significantly in the mid- to late 1980s. The arrest rate of nonwhite (primarily African American) adults for drug offenses[18] started to rise in the early 1980s, then grew appreciably after 1985 with the wide distribution of crack cocaine, especially in urban ghettos.

Figure 7 shows trends over time in the drug arrest rate for juveniles under age 18. The figure highlights the fact that the major recruitment of nonwhite juveniles into the drug markets did not begin until crack began to be widely distributed in about 1985. The drug arrest rate for juveniles then grew rapidly until it peaked in 1989, at almost three times the 1985 rate.[19]

One explanation for this rather dramatic increase in weapons arrest rates and youth violence assigns a central role to illegal drug markets, which appear to operate in a reasonable equilibrium with the demand for drugs, despite massive efforts over the past 15

As more inner-city youth became involved in the illegal drug markets, gun carrying became endemic in their communities.

years to attack the supply side.[20] The drug industry recruited juveniles because they were willing to work more cheaply than adults, they were less vulnerable to the punishments imposed by the adult criminal justice system, and they were often willing to take risks that more mature adults would eschew.[21] (See the article by Cook and Ludwig in this journal issue.)

In addition, there was a rapid growth of incarceration of older drug sellers—especially the African Americans who constituted the dominant group of sellers in the crack markets.[22] Between 1980 and 1996, the incarceration rate in state prisons for drug offenses grew by a factor of 10. This growth in incarceration for drug crimes created a strong demand for new recruits as replacements. Moreover, the rapid growth in demand for crack transactions—spurred by new users for whom powder cocaine had been inaccessible because of its high cost, and by an increase in transactions per consumer[23]—made the illegal drug markets anxious for a new labor supply. Finally, the economic plight of many urban black juveniles, who saw no other satisfactory route to economic sustenance,[24] made them particularly vulnerable to the lure of employment in the crack markets.

As the next section of the article describes, guns were common tools of the drug trade. As more inner-city youth became involved in the illegal drug markets, gun carrying became endemic in their communities.

The Diffusion of Gun Carrying from the Drug Markets to the Larger Community

There are some strong indications of a link between drug markets and the growth of gun prevalence in urban communities.[21,25] Because most crack markets, especially in inner-city areas, were run as street markets, participants were vulnerable to attack by robbers targeting their sizable assets (drugs or money from their sale).[26] Unable to call the police for protection, participants in those markets, including juveniles, tended to carry guns for self-protection and help in dispute resolution. Once these juveniles started carrying guns, other teenagers who attended the same school or walked the same streets became likely to arm themselves, for protection or to achieve status in the community.[17]

This may have initiated an escalating "arms race" as more guns in the community increased the incentive for the next person to arm himself. Among tight networks of teenagers, that diffusion process could proceed very quickly. The emergence of youth gangs in many cities at about the same time—some with members involved in the drug markets—would further contribute to that diffusion process.[27]

Once guns were in young people's hands, given the recklessness and bravado that is characteristic of many teenagers, and their low level of skill in settling disputes without physical force, many fights escalated into shootings because of the presence of guns. The willingness to use lethal force can be exacerbated by the problems associated with high levels of poverty, single-parent households, educational failures, and a widespread sense of economic hopelessness.

This hypothesized process suggested by national data has been tested with city-level data on juvenile arrests for drugs and homicides, taking advantage of the fact that drug markets flourished at different times in different cities. A 1999 study showed the connection between the recruitment of juveniles into the crack markets and the rise in handgun homicides.[25] The study identified the time when juvenile arrests for drugs began to accelerate in specific cities and compared it with the corresponding point when juvenile homicide arrests began to rise. Typically, there was a one- to three-year lag between the two; homicides followed involvement in drug markets. These results are consistent with the hypothesis that the rise in juvenile homicides was attributable to the diffusion of guns from youth recruited into drug markets to their friends and beyond. Also, the study's analysis of individual cities showed that crack markets generally emerged first in the largest coastal cities, especially New York and Los Angeles, and then diffused to the center of the nation and smaller cities at a later time. Thus, the observed patterns in handgun homicides by young people are highly consistent with explanations

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that assign central importance to the rise and decline of crack markets in the United States.

When examining homicides by race, it becomes clear that the predominant consequence of this diffusion of crack cocaine and guns was young black males killing other young black males. However, the evidence suggests that although young African Americans working in the drug markets were important in initiating the diffusion of handguns, these individuals were not necessarily involved in the shootings. Examination of the circumstances of these handgun homicides shows that they are mainly attributable to "arguments" rather than drug or gang related.[28]

Declines in the Drug Markets Fueled Declines in Youth Gun Homicide

This analysis suggests that the decline in handgun homicide by young people after 1993 resulted from a set of mutually supportive events. A decline in the demand for crack by new users[29] diminished the need for street markets and young drug sellers and reduced the associated need for handguns.[28,30]

With the reduced presence of young people in street drug markets, the external stimulus for possessing handguns was diminished, and even though the presence of handguns could develop a persistence of its own, efforts by local police to enforce laws against weapon carrying, as well as efforts by state and federal governments to disrupt illegal weapons markets, contributed to the disarmament that occurred between 1994 and 2000. (See the articles by Wintemute and by Fagan.) As individuals began to avoid carrying guns because of the deterrent effects of police enforcement or because of truces or other inducements stimulated by community groups, the next individual had less incentive to carry a gun. This cumulative process contributed to the decline in young people's weapons arrests and handgun homicides.

At the same time that young people were dropped from the crack street markets, jobs became more readily available to them in the legitimate economy.[31] The seasonally adjusted unemployment rate for black males ages 16 to 19 was 43% in the third quarter of 1992, but dropped to 29.5% by the third quarter of 1999.[32] Those who took jobs in the legitimate economy had an incentive to conform to the law, an incentive that would be much weaker if they were still involved in illegal drug markets. Thus, a stronger economy, particularly at the low-skill end, provided jobs for young people to move into instead of engaging in illegal activities to make money.

Conclusion

The United States has seen the consequences of easy youth access to guns in the rise of handgun homicides by young people starting in about 1985 and continuing until a peak in 1993. The entire growth in homicides over that period was attributable to young people with handguns. The subsequent decline in overall homicide rates has been dominated by the decline in handgun homicides by young people, and homicide rates among juveniles and youth are now just about back to where they were in 1985.

A number of complex factors have contributed to the recent decline in young people's violence: the shrinking of illegal drug markets, a robust economy that provided youth with legitimate employment and an incentive to conform to the law, and varied efforts to control youth access to guns, as discussed in the articles by Wintemute and by Fagan. However, having guns available to young people who lack skill in handling them and are insensitive to their lethal potential can be terrifying. The question remains: What can be done to sustain the recent declines in violent crimes committed by youth?

One answer is clear. As this article illustrates, youth homicide rates are sensitive to enforcement of gun control laws, as well as larger economic factors. Although economic downturns (and perhaps the emergence of new drug markets) are inevitable, government has at least some power to regulate the supply and use of guns by youth and other inappropriate people. Unless the government exercises that power by adopting more effective approaches to controlling youth access to guns, the United States risks seeing more lethal violence by youth the next time there is a major downturn in the economy accompanied by rapid growth of a new violence-prone drug market.

ENDNOTES

1. A spate of school shootings began with a shooting in Pearl, Mississippi, on October 1, 1997, that killed 2 students. That was followed by shootings in West Paducah, Kentucky (3 killed), Jonesboro, Arkansas (4 students and 1 teacher killed), Edinboro, Pennsylvania (1 teacher killed), and Springfield, Oregon (2 students killed). National concern peaked with the April 20, 1999, shootings in Littleton, Colorado, where 14 students (including the 2 shooters) and 1 teacher were killed. (More details on these and other school shootings are available from the Learning Network Web site, http://www.infoplease.com/ipa/A0777958.html.) These five incidents involved only 28 deaths, compared with the roughly 3,000 annual murders of teenagers over that same period, but they were striking because they occurred suddenly, involved typically suburban middle-class shooters, involved high-firepower weaponry, and had a random quality that increased public concern about the universality of the potential risks.

2. Mears, D.M. Getting tough with juvenile offenders: Explaining support for sanctioning youths as adults. ***Criminal Justice and Behavior*** (April 2001) 28(20):206–26.

3. Bennett, W.J., DiIulio Jr., J.J., and Walters, J.P. ***Body count: Moral poverty...and how to win America's war against crime and drugs.*** New York: Simon and Schuster, 1996.

4. In measuring trends in U.S. violence rates, this article focuses primarily on homicide, with some attention to robbery, which tracks homicide rather closely. These are the two violent crimes that are most reliably measured, largely because they are reasonably well defined and their definitions have been stable over time. Also, homicide tends to be very well reported to the police, and the rate at which victims report robberies to the police has been stable over time, at about 55%. See Rennison, C.M. ***Criminal victimization 2000: Changes 1999–2000 with trends 1993–2000.*** NCJ 187007. Washington, DC: Bureau of Justice Statistics, June 2001. The other components of the "violent crime index"—forcible rape and aggravated assault—are far less reliably measured, forcible rape because of sharp changes in reporting rates, and aggravated assault because of changes in definition, especially with the recent growth in the classification of domestic assaults as "aggravated."

5. The article focuses on crimes reported to the police and reported by them to the Federal Bureau of Investigation, which publishes the reports annually in the Uniform Crime Reports (UCR). See U.S. Department of Justice, Federal Bureau of Investigation, ***Crime in the United States: Uniform crime reports (year).*** Washington, DC: U.S. Government Printing Office. The UCR report for any year is usually published in the fall of the following year. This article relies on UCR reports for the years 1965 through 2000.

6. For homicides specifically, in addition to UCR reports (see note no. 5), the article relies on detailed incident reports supplied to the Federal Bureau of Investigation by the police and compiled in the Supplementary Homicide Reports (SHR), which are raw data made available to researchers by the FBI. The SHR data used here cover the period 1979–1997. The numbers here are based on the SHR counts in a subset of the reporting jurisdictions. Jurisdictions that had erratic reporting were purged in all years to avoid fluctuations based on reporting variations. These reports, filed by individual police departments, provide considerable detail on individual homicide incidents. This article focuses specifically on reports from cities with populations of more than 100,000. Each report contains information on the victim, offender (if known), victim–offender relationship, the weapon involved, and the circumstances leading up to the homicide, such as argument, drug involvement, or gang involvement. Unfortunately, only a single circumstance may be designated, so changes over time in how police designate the single circumstance limit the reliability of those data.

7. In Figure 1, the rate for robbery is scaled down by a factor of 25 to put it on the same scale as murder, to permit easy visual comparison of the two data series.

8. If this trend were to continue, then one might project the homicide rate to go negative by 2007—an obvious impossibility. Because such trends cannot continue indefinitely, it is all the more important to anticipate the conditions that will flatten the trend or turn it upward. In fact, that flattening has already occurred, as the drop of 3.1% from 1999 to 2000 is the smallest seen since the 1991 peak.

9. Gest, T. ***Crime and politics: Big government's erratic campaign for law and order.*** New York: Oxford University Press, 2001.

10. It is far less widely recognized that there also was an important increase during this period in suicide by young people, especially African Americans. See the article by Fingerhut and Christoffel in this journal issue.

11. Figure 4 uses an index scale, with the number of handgun homicides by black youth in 1985 being assigned an index number of 100. Thus, the number of handgun homicides in any year is relative to the number of homicides with handguns by black youth in 1985.

12. The Federal Bureau of Investigation's Supplementary Homicide Reports (SHR) provide data to track such changes in homicides. (See note no. 6.)

13. These data are available only for homicides where the offender is known.

14. Figure 5 uses an index scale, with the number of handgun homicides in 1985 being assigned an index number of 100. Thus, the number of homicides by any weapon type and in any year is relative to the number of homicides with handguns in 1985.

15. Suicides displayed the same pattern as homicides: a sharp rise in weapon-specific death rates before 1993. Following a period of generally flat rates, the rate of suicide with firearms increased significantly after 1985, whereas suicides committed by means other than firearms remained unchanged. This pattern was especially pronounced in suicides of African American youth and juveniles, whose suicide rate previously had been markedly lower than that of whites. See Blumstein, A., and Cork, D. Linking gun availability to youth gun violence. ***Law and Contemporary Problems*** (1996) 59(1):5–24.

16. Freed, L.H., Webster, D.W., Longwell, J., et al. Factors preventing gun acquisition and carrying among incarcerated adolescent males. ***Archives of Pediatrics and Adolescent Medicine*** (March 2001), 155(3):335–41.

17. Sheley, J.F., and Wright, J.D. High school youths, weapons and violence: A national survey. ***Research in Brief.*** Washington, DC: National Institute of Justice, October 1998.

18. Arrests for drug offenses obviously confound information on drug-market activity with the aggressiveness of police pursuit of drug offenders. Cross-city analyses have shown that drug arrests are the

best predictor of drug activity, compared with other indicators such as the percentage of drug-positives in urinalysis of booked arrestees and admissions to emergency rooms with drug-related problems. See Baumer, E., Lauritsen, J.L., Rosenfeld, R., and Wright, R. The influence of crack cocaine on robbery, burglary, and homicide rates: A cross-city, longitudinal analysis. *Journal of Research in Crime and Delinquency* (1998) 35(3):316–40.

19. The more recent rise in drug arrests, beginning in 1992—affecting white juveniles as much as nonwhites—is much more associated with arrests for marijuana than for crack, which dominated drug arrests in the late 1980s. It is also interesting to note that in 1975, a policy shift reversed the then rapidly growing drug arrest rate of whites (primarily for marijuana offenses), whose drug arrest rate exceeded that of nonwhites throughout the 1970s. That was a period of some degree of decriminalization, which evidently benefited whites primarily and nonwhites to a lesser degree. However, the trend for the latter was significantly reversed with their recruitment into the crack markets beginning in about 1985.

20. Office of National Drug Control Policy. *The National Drug Control Strategy: 2000 annual report.* Washington, DC: Government Printing Office, 2000.

21. Blumstein, A. Youth violence, guns and the illicit-drug industry. *Journal of Criminal Law and Criminology* (1995) 86(1):10–36.

22. Blumstein, A., and Beck, A.J. Population growth in U.S. prisons, 1980–1996. In *Crime and Justice: Prisons.* Vol. 26. M. Tonry and J. Petersilia, eds. Chicago: University of Chicago Press, 1999, pp. 17–61.

23. MacCoun, R.J., and Reuter, P. *Drug war heresies: Learning from other vices, times, and places.* New York: Cambridge University Press, 2001.

24. For one depiction of this problem, see Wilson, W.J. *When work disappears: The world of the new urban poor.* New York: Alfred A. Knopf, 1996.

25. Cork, D. Examining space-time interaction in city-level homicide data: Crack markets and the diffusion of guns among youth. *Journal of Quantitative Criminology* (December 1999) 15(4):379–406.

26. Jacobs, B.A. *Robbing drug dealers: Violence beyond the law.* New York: Aldine de Gruyter, 2000.

27. Cohen, J., Cork, D., Engberg, J., and Tita, G. The role of drug markets and gangs in local homicide rates. *Homicide Studies* (1998) 2(3):241–62.

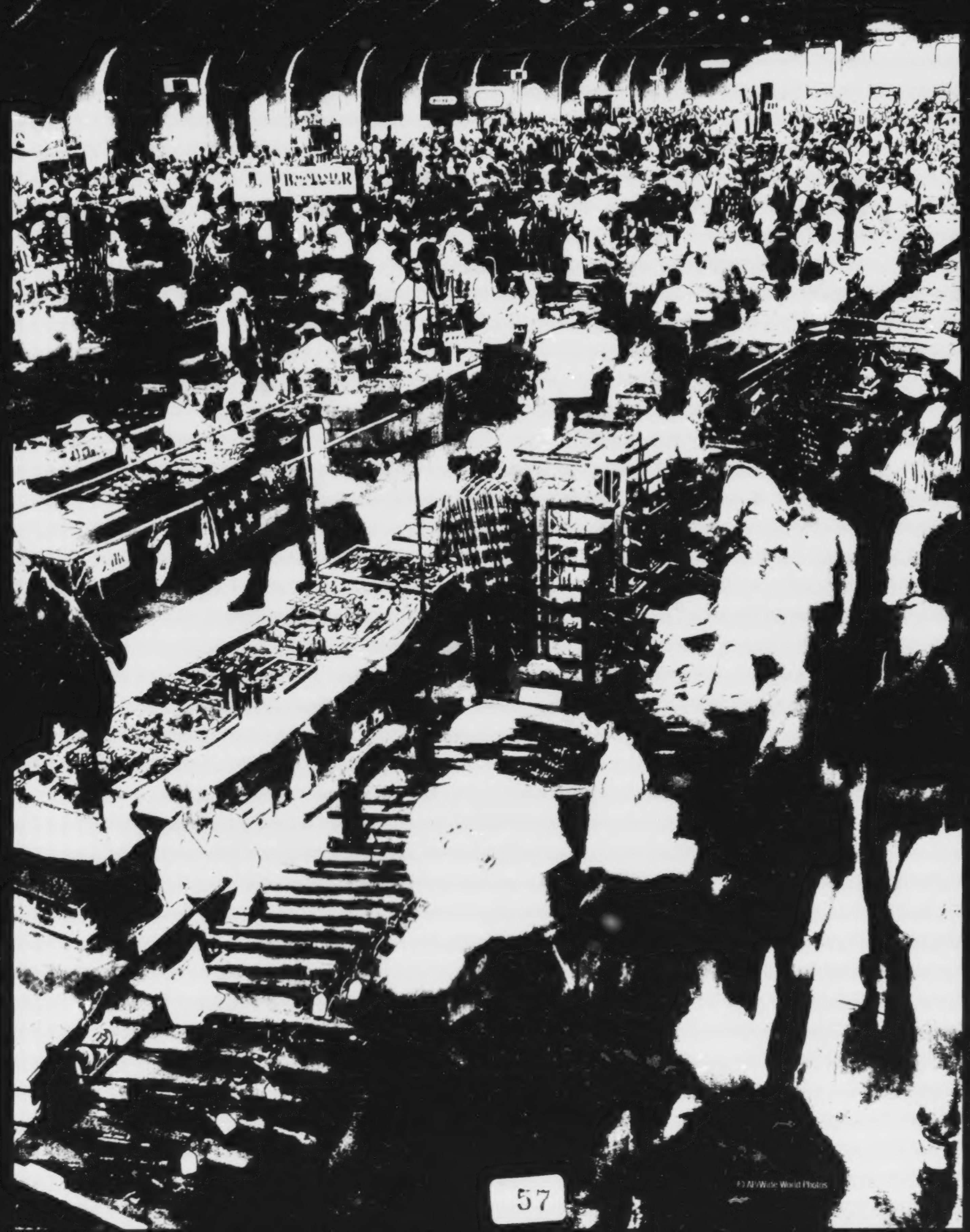
28. Unpublished tabulations based on Supplementary Homicide Reports data (see note no. 6).

29. Johnson, B., Golub, A., and Dunlap, E. The rise and decline of hard drugs, drug violence, and violence in inner-city New York. In *The Crime Drop in America.* A. Blumstein and J. Wallman, eds. New York: Cambridge University Press, 2000.

30. See Blumstein, A., and Wallman, J. The recent rise and fall of American violence; and Wintemute, G.J. Guns and gun violence. In *The Crime Drop in America.* A. Blumstein and J. Wallman, eds. New York: Cambridge University Press, 2000.

31. See, for example, Hershey, R.D. U.S. jobless rate declines to 4.7%, lowest since 1973. *New York Times.* November 8, 1997, at A1.

32. Bureau of Labor Statistics data. Downloaded from http://data.bls.gov/cgi-bin/dsrv/ on January 20, 2002.



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Where the Gun Come From: The Gun Industry and Gun Commerce

Garen J. Wintemute

SUMMARY

Under federal law, it is illegal for youth under age 18 to purchase rifles or shotguns, and for those under age 21 to purchase handguns. However, fatality and injury statistics clearly show that guns are finding their way into young people's hands. Many of these youth obtain guns through illegal gun markets.

This article focuses on how guns in the United States are manufactured, marketed, and sold. The article shows how the legal and illegal gun markets are intimately connected and make guns easily accessible to youth.

- Although the domestic gun manufacturing industry is relatively small and has experienced declining sales in recent years, it has significant political clout and a large market for its products, and has engaged in aggressive marketing to youth.
- Lax oversight of licensed firearms dealers, combined with little or no regulation of private sales between gun owners, mean that guns can quickly move from the legal gun market into the illegal market, where they can be acquired by young people.
- Certain guns, especially inexpensive, poorly made small handguns, are particularly attractive to criminals and youth.

The author observes that several policy innovations—including increased regulation of licensed firearms dealers, intensified screening of prospective buyers, regulation of private sales, gun licensing and registration, and bans on some types of weapons—hold promise for decreasing the flow of guns into the hands of youth.

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America's children and youth remain in the grip of an epidemic of gun violence. In 1999, some 40% of all gun homicide victims, and 15% of all gun suicides, were children or youth under age 25.[1] That same year, 43% of all "crime guns"—guns seized from criminals—were taken from children or youth.[2]

Beginning in the mid-1980s, medical and public health practitioners became increasingly involved in gun violence prevention. They argued that gun violence could be attacked using the same basic strategies that had proven effective in fighting diseases. They believed that guns, like germs, had what amounted to a life cycle; accordingly, weak links in the chain of events that led from a gun's manufacture to its use in crime could be identified and broken. The events in that life cycle were largely unknown at the time, so these pioneers aggregated information on instances of gun violence to seek underlying patterns. Their work coincided with an increasing interest on the part of criminologists and criminal justice practitioners in applying the lessons learned from such patterns—the "big picture"— at the street level.

The big picture emerged with unexpected clarity. A subset of guns, from specific manufacturers, was disproportionately involved in gun violence. These guns moved rapidly into the hands of those who misused them, including youth, often following predictable pathways.

This article provides an overview of how the gun industry and gun markets operate in the United States—and how those operations make guns easily accessible to children. The article begins with a discussion of how the gun industry operates: who manufactures guns, who owns guns, and how the gun industry actively promotes the use of guns by young people. The next section of the article reviews the complex workings of gun markets, and discusses how both legal and illegal systems of commerce allow guns to fall into the hands of children and youth.

Fortunately, increasing knowledge of gun commerce has created new opportunities for violence prevention. The article concludes with a discussion of regulatory, law enforcement, and other strategies that show early promise in changing the way gun markets operate and in reducing youth access to guns.

The Gun Industry

Gun manufacturing in the United States is a relatively small industry, and sales fell in the 1990s. However, as this section of the article makes clear, the industry retains a powerful political presence, with a significant domestic market for its products. The gun industry is working actively to increase demand for its products through marketing aimed at children and youth.

Making Guns

The gun industry is small in relation to the effect that its products have on health and social conditions in the United States and the political power that it wields. The 1997 Census of Manufacturers, conducted by the U.S. Census Bureau, recorded 191 gun manufacturers in the United States, with total sales of just $1.2 billion and fewer than 10,000 employees. Cigarette manufacturers, by comparison, produced $28.3 billion worth of product that year; the alcoholic beverage industry produced $27.7 billion.[3]

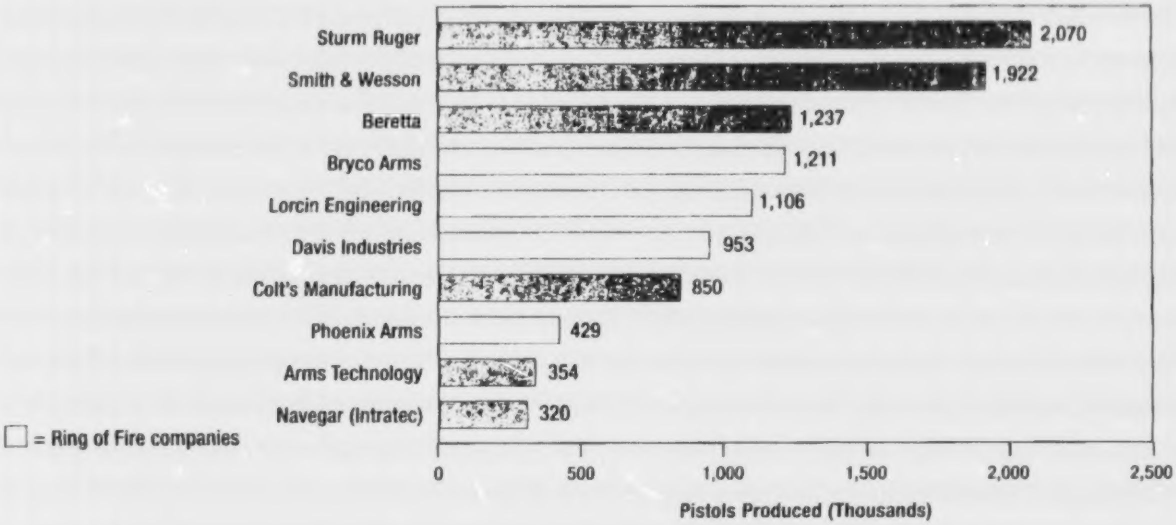
A few gun manufacturers dominate the market. In 1999, for example, the top 10 producers of semiautomatic pistols accounted for 77% of all domestic manufacture; 5 revolver manufacturers accounted for 98% of all revolver production.[4] In the early 1990s, some 80% of inexpensive, easily concealable "Saturday night special" handguns were produced by 5 manufacturers surrounding Los Angeles, dubbed the "Ring of Fire."[5] Figure 1 lists the leading manufacturers of semiautomatic pistols during the 1990s. Four of them were part of the Ring of Fire.

Recently, domestic gun manufacturers have struggled as gun sales in the United States have fallen. As Figure 2 shows, domestic rifle and shotgun manufacture declined until the mid-1980s and has remained relatively stable since then. Handgun manufacture rose rapidly to peaks in 1982 and again in 1993, but declined precipitously after both peaks.

These trends in handgun manufacture coincided closely with trends in gun violence. Crime rates have fallen substantially since 1993; homicide arrests of persons under age 18 decreased 56% between 1995 and 1999.[6] (See the article by Blumstein in this journal issue.) Demand for guns has fallen in tandem, as potential buyers feel less need for protection; annual

Figure 1

Top 10 Producers of Semiautomatic Pistols in the United States, 1990–1999



Source: Bureau of Alcohol, Tobacco and Firearms. *Annual report of firearm manufacture and exportation.* Washington, DC: ATF, 1990–1999 editions.

production of semiautomatic pistols in the United States fell by 56% between 1993 and 1999. As domestic producers have struggled, imported handguns have taken an increasing share of the U.S. market.

A recent flood of imports notwithstanding, the American gun industry has long enjoyed special protections provided by Congress and many state legislatures. For example, except for prohibitions on the manufacture of machine guns, short-barreled shotguns, and similar weapons for the civilian market, essentially no restrictions were placed on the design or performance of firearms manufactured in the United States until 1994.

By contrast, since 1968 Congress has required that imported guns be "particularly suitable for or readily adaptable to sporting purposes." This had the intended effect of halting the importation of cheap, poorly made Saturday night specials. But Congress chose not to extend those standards to guns made in the United States—creating a double standard that led directly to the creation of America's Saturday night special industry.

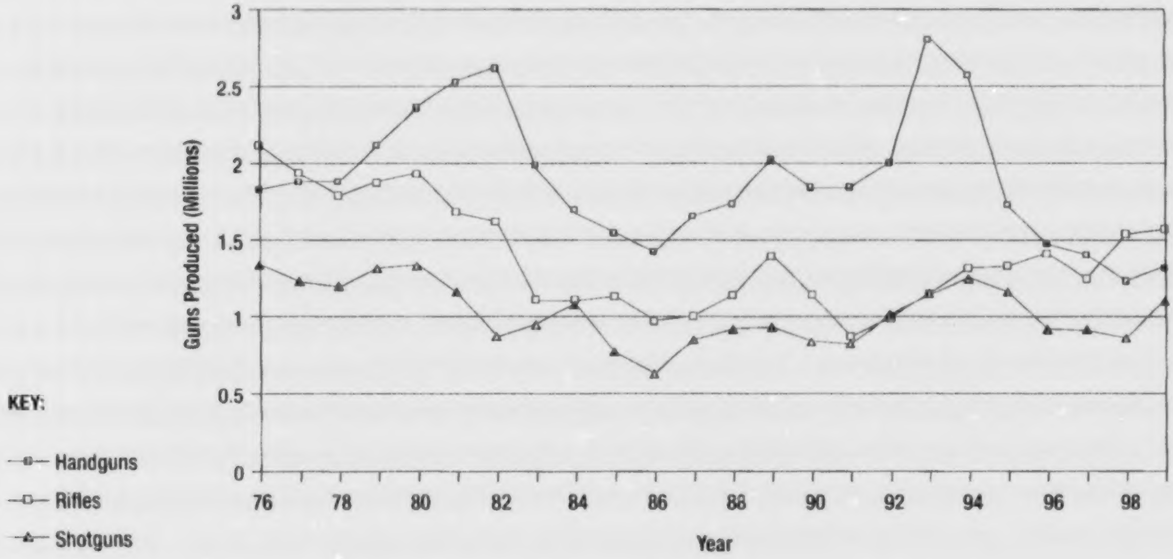
Like their foreign predecessors, America's Saturday night specials are "junky and not reliable."[7] The former chief of the Firearms Technology Branch at the U.S. Bureau of Alcohol, Tobacco and Firearms (ATF) said of the leading American manufacturers of these guns, "They don't do any more to them than they have to to make them work."[8] He later added, "If someone gave me one as a gift, I'd throw it away."[7]

Yet ATF has only limited authority to oversee gun manufacturers. It has no power to identify, let alone regulate, defective or unnecessarily hazardous guns. The U.S. Consumer Product Safety Commission is forbidden by law from addressing firearms or ammunition. (See the article by Teret and Culross in this journal issue.)

At least 16 state legislatures have provided gun manufacturers with special immunity from lawsuits, even

Figure 2

Gun Production in the United States, 1976–1999



Source: Bureau of Alcohol, Tobacco and Firearms. *Annual report of firearm manufacture and exportation.* Washington, DC: ATF, 1990–1999 editions.

those filed by their own cities and counties. At least 35 states also have passed so-called preemption laws that prohibit local jurisdictions from regulating gun manufacturing and other aspects of gun commerce.

These laws were enacted with relatively little lobbying effort by the gun industry itself. Until the early 1990s, the industry had essentially no organized presence in Washington, D.C., let alone at the state level; advocacy organizations such as the National Rifle Association (NRA) were so effective that the industry felt little need to participate directly. That changed during the 1990s as regulatory proposals multiplied and were joined by the threat of more sophisticated litigation. Several interconnected industry organizations, including the National Shooting Sports Foundation and the Hunting and Shooting Sports Heritage Fund, now promote gun industry interests. The industry also subsidizes the NRA and other advocacy organizations through advertising fees.

The Market for Guns in the United States

Although gun sales have declined in recent years, domestic gun manufacturers still enjoy a large market for their products. Americans owned approximately 192 million guns in 1994, of which 65 million were handguns.[9] An average of 4.7 million new guns are added to that stock each year through domestic manufacture and importation. Approximately 35% to 40% of American households have guns, and as many as 25% have handguns.[9–12] There has been a long-term decline in the overall prevalence of gun ownership since the early 1970s, when nearly one-half of American households kept firearms. The decline is limited to rifle and shotgun ownership, and may reflect increasing urbanization and a declining interest in hunting. Handgun ownership has increased slightly during that time.[12]

Gun ownership is strongly influenced by demographic and social factors. Men are much more likely than

Approximately 35% to 40% of American households have guns, and as many as 25% have handguns.

women to own guns (42% and 10%, respectively). Gun ownership is relatively uncommon in the Northeast (14%), and progressively more common in the Midwest (24%), West (26%), and South (32%). Married persons are much more likely to own guns (32%) than are those who are divorced (21%), widowed (16%), never married (15%), or separated (13%). Gun ownership generally increases with increasing socioeconomic status.[12]

Guns are consumer products, and different types have different uses. Therefore, most gun-owning households have more than one firearm; 48% owned three or more in 1994.[9] But at least 60% of handguns are acquired primarily for protection,[9,12] and their owners presumably want these guns to be easily accessible in emergencies. It is consonant with this that one-third of handguns in the United States—perhaps 20 million guns—are stored loaded and not locked away. These handguns are obviously ready and accessible for other than their intended purposes.

Gun ownership is common in homes with children; in one multistate study, 37% of parents reported keeping guns in the home, and 17% owned handguns.[11] Although homes with children are less likely than other households to contain guns that are both loaded and not locked away, it appears that 9% to 14% of homes with children and guns (approximately 1.5 million households, with 2.6 million children) store at least one firearm loaded and unlocked.[10,13]

Some parents resist changing gun ownership and storage patterns that put children at risk. For example, in a long-term study of severely depressed adolescents at risk of suicide, just 27% of parents who had guns in the home agreed to remove their guns, despite vigorous and repeated urging to do so. Compounding the problem, parents who refused to remove their guns were more likely than others to store the guns loaded. Of families without guns at the time the study began, 17% acquired them over the next two years.[14]

Marketing Guns to Young People

The gun industry's traditional customer base is in long-term decline. As American society has become more urbanized, hunting has become steadily less popular; one government official predicted that "hunting could end in this country as early as the year 2020."[15] Furthermore, adults who do not use guns themselves will not introduce their children to guns. "Grandpa or dad isn't taking the kid out into the field to teach him to shoot any more," lamented one industry executive.[15]

The industry is working to recruit future customers among America's children and youth, through advertising campaigns and even video games. It would be misleading to say that the industry directly promotes gun purchases by children, which would be illegal. Persons under age 18 cannot own rifles or shotguns; those under age 21 cannot own handguns. But the industry and related gun advocacy groups strongly encourage gun use by children and encourage parents and other adults to purchase guns for them. Advertisements from gun manufacturers frequently model children using guns. National Shooting Sports Foundation promotional materials argue that any child old enough to be left alone in the house for two or three hours or sent to the grocery store with a list and a $20 bill is old enough to own a gun.[15]

The NRA is investing $100 million in a campaign to bring together children and guns. Former NRA president Marion Hammer has declared that the organization is in "an old-fashioned wrestling match for the hearts and minds of our children, and we'd better engage our adversaries with no holds barred."[16] In his monthly column in *Guns & Ammo* magazine, NRA president Charlton Heston has exhorted gun owners to "consider how you can help preserve freedom for future Americans by introducing a young person to the fun and satisfaction of shooting.... [Take] your daughter, nephew, neighbor or family friend out for an afternoon of plinking, hunting or clay target excitement."[17]

Major manufacturers, including Colt's, Browning, and Remington, have begun to use video games as marketing tools. Their strategy was expressed by Scott Farrell, editor of *Guns Magazine:* "What we need is a computer game which combines the use of the real handgun...with state-of-the-art graphics and an exciting story...a game like that would be an extremely effective vehicle to introduce safe recreational shooting to the video games generation."[18] As of late 2001, however, the games were selling poorly—paradoxically, they were not violent enough—and some had been taken off the market.[19] Criticism by gun control advocacy groups, notably the Violence Policy Center, has caused at least two manufacturers to request that their guns not be used in more violent games produced by other companies.

Selling Guns: How Do They End Up in the Hands of Youth?

The gun industry operates in such a way as to make guns readily accessible to young people, criminals, and others who are prohibited from possessing them. Robert Hass, Smith & Wesson's former senior vice president of marketing and sales, has made this clear:

> The company and the industry as a whole are fully aware of the extent of the criminal misuse of firearms...that the black market in firearms is...due to the seepage of guns into the illicit market from multiple thousands of unsupervised federal firearms licensees. In spite of their knowledge, however, the industry's position has consistently been to take no independent action to insure responsible distribution practices [and] to maintain that the present minimal federal regulation...is adequate.[20]

An overview of the major features of the gun markets, as presented below, reveals that guns can quickly move from the regulated, legal market into the illegal market, through corrupt retailers, bulk transactions and "straw" (surrogate) purchasing, sales on the unregulated secondary market, or theft. Certain guns, especially inexpensive and high-powered semiautomatic pistols, are particularly attractive to criminals and youth.

Legal and Illegal Markets for Guns

The market for guns in the United States is complex enough that it is helpful to think in terms of several interdependent gun markets. There are both legal and illegal retail markets in guns. Until fairly recently, it was believed that theft was the main source of guns for the illegal market, but new evidence demonstrates that the legal market is the chief source of supply for the illegal market's crime guns. The intentional diversion of guns from the legal to the illegal market, a process known as "trafficking," has been the subject of intense research and intervention.

The legal gun market is divided into a primary market, comprising all transfers of guns by mainstream sources such as federally licensed retailers (gun dealers and pawnbrokers), and a secondary market, consisting of transfers involving less formal sources such as private parties, collectors, and unlicensed vendors at gun shows.[21] The split between primary market sales by licensed retailers and secondary market sales by other sources is approximately 60/40.[9,21]

Lack of regulation and oversight of the primary market's licensed retailers has contributed greatly to the availability of guns for criminal use. Practices such as bulk retail transactions and surrogate or straw purchasing make it easy for gun traffickers—sometimes with the cooperation of corrupt licensed gun dealers—to buy guns and then resell them on the secondary market, where sales are not subject to federal regulations such as background checks.

In the early 1990s, the United States had more gun retailers than gas stations.[22] No mechanism existed, at either the federal or state level, for ensuring that licensed retailers were actually engaged in the legitimate business of selling guns or that they complied with state and local laws regarding the operation of such a business. As Box 1 shows, retailers often are sources of crime guns, both directly and through traffickers and other intermediaries.

Bulk retail transactions, also called multiple purchases, are another important source of crime guns. In 1999, some 22% of all crime guns had first been sold in a multiple purchase.[2] Youth frequently engage in multiple purchases (although not always from licensed retailers). Among correctional inmates under age 18, for example, one in five stated in a 1993 survey that they had gone out of state to buy guns in quantity, and 45% of these had "bought, sold, or traded a *lot* of guns" (italics in original).[23]

Straw purchasers—persons who buy guns from licensed retailers on behalf of others who are prohibited from doing so—are another important source of crime guns.

Box 1

Licensed Firearms Dealers as Sources of Guns Used in Crime

These examples, taken from case files kept by the U.S. Bureau of Alcohol, Tobacco and Firearms, illustrate how some licensed dealers act as sources for guns used in crimes:

- From August 1993 to March 1996, a Kansas City dealer illegally sold 1,357 guns, many from his van. More than 200 of these guns were later recovered from crime scenes in Kansas City. The firearms were primarily Lorcin and Bryco handguns. The dealer pleaded guilty on multiple counts and was sentenced to 71 months in prison.
- In March 1996, a gun recovered from a Washington, D.C., youth was traced after ATF's national laboratory successfully raised its obliterated serial number. The trail led to a licensed gun dealer in Missouri and later to a Nashville, Tennessee, gun trafficker who sold 200 to 300 guns on the streets of the nation's capital. To date, 138 semiautomatic firearms originally sold by the Missouri dealer have been recovered in crimes in the Washington, D.C., area—crimes that include murder, kidnapping, robbery, and armed assault. In June 1997, the Nashville gun trafficker pleaded guilty to federal charges. He was sentenced to 60 months' imprisonment. During sentencing, the judge referred to the trafficker as a "dealer in death."

Source: U.S. Bureau of Alcohol, Tobacco and Firearms. *Following the gun: Enforcing federal laws against firearms traffickers.* Washington, DC: ATF, 2000.

This may be particularly true for young people: In the 1993 survey mentioned above, 32% of student-age inmates and, perhaps even more surprisingly, 18% of inner-city high school students, had asked someone to purchase a gun for them from a retail outlet.[23]

Compelling evidence of the complicity of corrupt licensed retailers in these purchases comes from Chicago, where undercover police officers conducted sting operations in 1998. In a dozen cases, storefront gun retailers in Chicago suburbs—selected because of the frequency with which guns they sold were used in Chicago crimes—willingly participated in straw purchases and other sales that they knew to be illegal.[24]

Despite cases like these, licensed retailers in the primary gun market make up the most regulated, and probably also the cleanest, segment of the retail gun market. Congress has created a double standard for gun sellers. Federal law requires those who are "engaged in the business" of selling guns to be licensed. But the law is deliberately ambiguous as to what "engaged in the business" means. As a result, unlicensed vendors in the secondary gun market can buy and sell dozens or hundreds of guns each year and still claim that they are pursuing a hobby. This has divided the primary and secondary retail gun markets into two parallel systems for gun distribution, with clear implications for efforts to prevent the flow of guns into the illegal market. Licensed retailers are required to comply with federal, state, and local laws (although enforcement is problematic). They are obligated to identify prospective purchasers. They cannot transfer guns to prohibited persons, and they are required to observe waiting periods and submit purchaser information for background checks. They must keep records of all acquisitions and dispositions of guns, and report all multiple sales. The secondary market's unlicensed gun sellers, by contrast, can legally ignore the identification requirement and waiting period, cannot conduct background checks, and are not required to report multiple sales or keep records.

The problem is most visible (although probably not most extensive) at gun shows and flea markets. There are more than 4,000 gun shows in the United States each year, averaging 2,000 to 5,000 attendees each. ATF summarizes the situation: "Under current law, large numbers of firearms at these public markets are sold anonymously....there is virtually no way to trace

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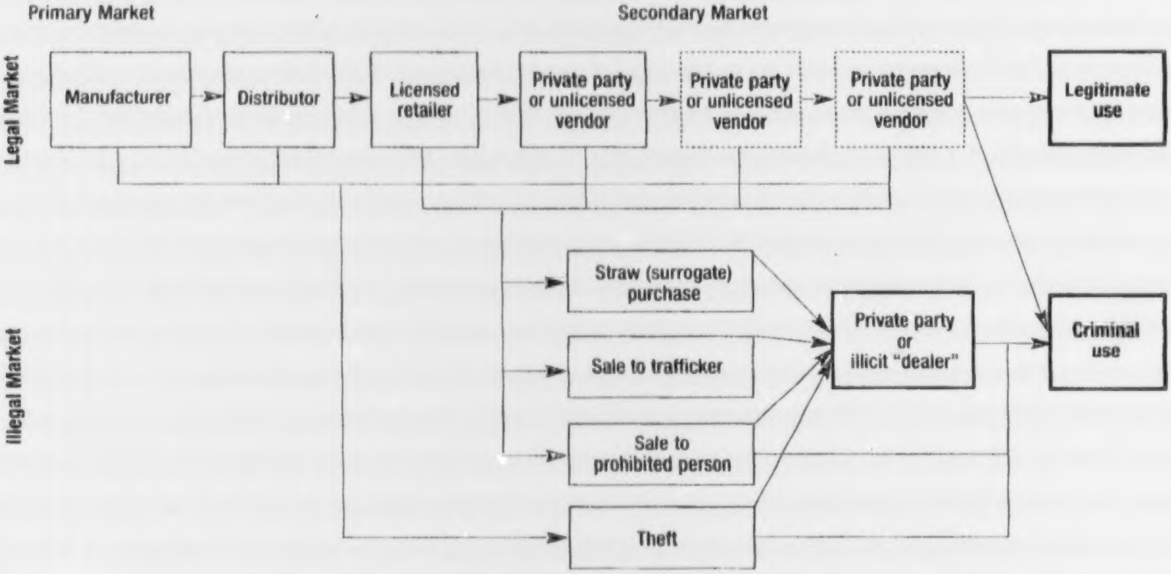
Figure 3

A Simplified View of Gun Markets: How Legal Guns Enter Illegal Commerce and Reach Criminals


Primary Market
Secondary Market
Legal Market
Illegal Market
Manufacturer
Distributor
Licensed retailer
Private party or unlicensed vendor
Private party or unlicensed vendor
Private party or unlicensed vendor
Legitimate use
Straw (surrogate) purchase
Sale to trafficker
Sale to prohibited person
Theft
Private party or illicit "dealer"
Criminal use

[illegible]

them."[25] As a result, "too often the shows provide a ready supply of firearms to prohibited persons, gangs, violent criminals, and illegal firearms traffickers."[25] Unlicensed vendors, who make up 25% to 50% of all persons selling guns at gun shows, sometimes even advertise their exemption from the regulations that apply to licensed retailers. At one show, a vendor posted a sign stating, "No background checks required; we only need to know where you live and how old you are."[25] Because purchasers are not even required to show identification, such vendors clearly are an important potential source of guns for children and youth.

Thus, guns may be diverted directly from the legal to the illegal market through several channels. As shown in Figure 3, firearms can be furnished directly by a corrupt licensed retailer, bought from a licensed retailer by a straw purchaser, or sold, with almost no questions asked, in the unregulated secondary market.

Under these circumstances, reports that even serious criminals often buy rather than steal their guns have gained widespread credibility. A nationwide survey of inmates in state prisons in 1991 found that those incarcerated for a handgun offense were nearly as likely to have gotten the gun they used from a "retail outlet" (27%) as from the "black market, a drug dealer, or a fence" (28%); just 9% said that they had stolen it.[26]

Theft remains a source of potential crime guns; about 500,000 guns are stolen each year.[9] But the importance of theft to the supply of crime guns has been overestimated. This may be because theft does not yield desirable guns. Guns stolen from residences, at least, tend to be older revolvers, not the semiautomatic pistols that have become the weapons of choice for criminal use.[27]

Crime Guns

This section describes features of guns that are commonly used in crime. Popular crime guns tend to be powerful, new semiautomatic pistols, many of which are inexpensive and thus particularly attractive to youth. Crime guns also tend to change hands often, and to be bought in the state where they are used to commit crimes.

Increased Firepower in the Weapons of Choice

As semiautomatic pistols have replaced revolvers among street firearms, the severity of gun violence in America has increased. Pistols hold more ammunition than revolvers, which typically carry six rounds. In the "double-stack" magazine configuration that was very common until 1994—and remains available today—conventional 9 mm pistols carry as many as 20 rounds of ammunition. Special "after-market" magazines hold even more.[28] In the transition from revolvers to pistols, caliber increased along with ammunition capacity. Gun caliber, a rough measure of "stopping power," is an independent determinant of gun lethality in civilian settings.[29]

Medical studies have documented the consequences, which have been particularly severe for young people. Pistols were used in 5% of gang homicides in Los Angeles County in 1986, but 44% in 1994. By then, gang-related homicides made up 43% of all homicides there, and one-half of all victims of these gang-related homicides were under age 21.[30] In Chicago, almost the entire increase in handgun homicides during the late 1980s and early 1990s was attributable to semiautomatic pistols.[31] Nationwide, it is estimated that more homicides were committed with 9 mm pistols in 1992 alone than in the entire decade of the 1980s.[15]

The close relationship between trends in gun production and gun use in crime is emphasized by the fact that nearly the entire increase in handgun production from the mid-1980s through 1993 involved the specific medium- and large-caliber pistols that became weapons of choice for criminal use, as shown in Figure 4. Tom Diaz, a former senior staff member for the House Judiciary Committee's Subcommittee on Crime, has argued that the gun industry knowingly marketed increasingly lethal pistols to promote repeat sales to a customer base that was already saturated with less powerful guns.[15]

It is therefore particularly important that inexpensive, relatively high-capacity, medium-caliber semiautomatic pistols became widely available for the first time in the late 1980s. Almost all of these pistols, which typically sell new at retail for $100 to $150, have been produced by Ring of Fire manufacturers: Bryco Arms, Lorcin Engineering, and Davis Industries.[5] Their low price makes these guns particularly accessible to young people.

By 1999, semiautomatic pistols accounted for one-half of all recovered crime guns; 9 mm pistols alone made up 23% of crime guns. As Table 1 shows, 7 of the top 10 crime guns recovered from persons under age 18 in 1999, and 5 of the top 10 crime guns recovered from those ages 18 to 24, were inexpensive semiautomatic pistols made by Ring of Fire companies.[2]

Certain firearms have predominated in gun crime year after year, as Table 2 shows. The salient example is the Lorcin Engineering .380-caliber pistol, a Ring of Fire gun. The Lorcin .380 was first manufactured in 1992. By 1993, the gun ranked among the most frequently identified crime guns in the United States, a status it has maintained ever since.

Crime Guns Are New Guns That Have Changed Hands Rapidly

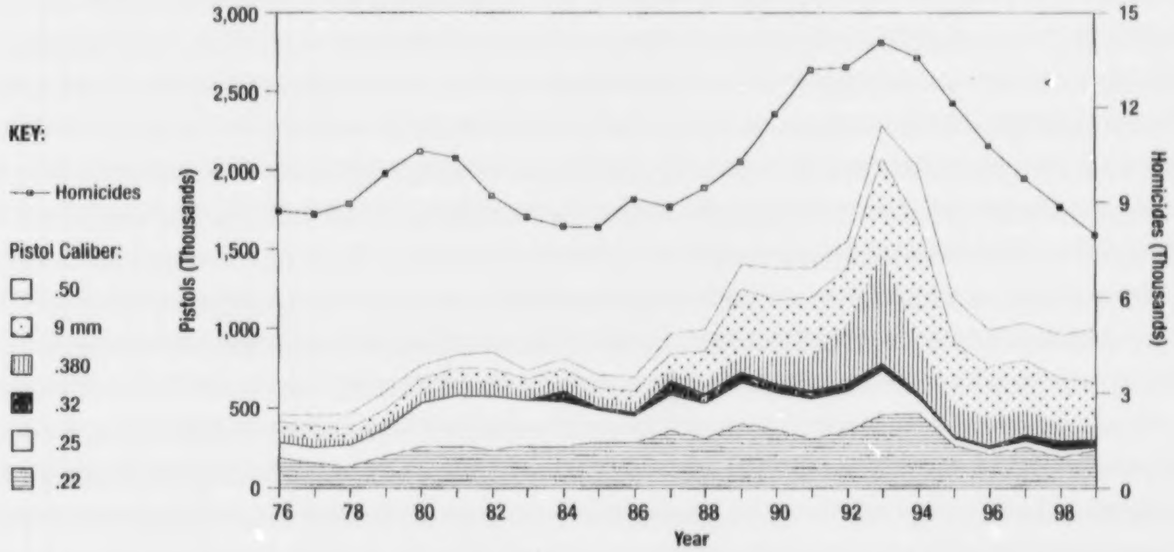
In 1999, guns that were less than six years old made up just 17% of all guns estimated to be in civilian hands, but accounted for more than one-half of all recovered crime guns. Of all crime guns recovered in 1999, some 15% had been in circulation for less than a year.[2]

This "time to crime," as it is known, is shortest for the most popular crime guns. Of the top 10 crime guns recovered from persons under age 18 in 1999, 5 had a median time to crime of 4 years or less; and 2, the Bryco Arms and Lorcin Engineering 9 mm pistols, each had a median time to crime of just 1.6 years. Among the top 10 crime guns recovered from persons ages 18 to 24, Bryco Arms 9 mm pistols had a median time to crime of just 1.2 years, and Bryco Arms .380 pistols had a median time to crime of 2.0 years.[2]

In 1999, only 11% of recovered crime guns were possessed by the people who had first purchased them from a licensed gun retailer.[2] Coupled with the finding that time to crime is often very short, this suggests that crime

Figure 4

Handgun Homicide and Semiautomatic Pistol Production by Caliber, United States, 1976–1999



Source: Bureau of Alcohol, Tobacco and Firearms. *Annual report of firearm manufacture and exportation.* Washington, DC: ATF, 1990–1999 editions; Fox, J., and Zawitz, M. *Homicide trends in the United States.* Washington, DC: Bureau of Justice Statistics. Available online at http://www.ojp.usdoj.gov/bjs/.

guns are frequently purchased from retailers for criminal purposes and move rapidly into the illegal market.

Crime Guns Are Usually of Local Origin

Most crime guns in 1999, including 53% of guns recovered from persons under age 18, were first sold by licensed dealers in the state in which they were recovered. Thirty percent of guns recovered from persons under age 18 were first sold in the county in which they were recovered or in an immediately adjoining county.[2]

But several interstate trafficking pathways are also well documented. These begin in states where gun sales are loosely regulated and end where guns are more difficult to acquire. The "Iron Pipeline" transports guns purchased in the Southeast for resale in the Middle Atlantic states and New England. A second pathway brings guns bought in the Central South to the Upper Midwest, particularly to Chicago.

Strategies to Reform the Gun Markets and Decrease Youth Access to Guns

As the intersection between gun markets and crime has become better understood, violence prevention practitioners at the federal, state, and local levels, from a wide array of backgrounds, including law enforcement, public policy, law, and health care, have worked to develop new strategies for combating the gun violence epidemic. Many of these interventions—such as tracing crime guns, strengthening regulation of licensed dealers, and screening prospective buyers—have already been implemented to some extent nationwide and have shown early promise in decreasing youth access to guns in the legal and illegal markets. Other strategies—such as limiting gun sales, regulating the secondary market, registering guns and licensing owners, and banning some types of weapons—are being tried in a number of states and may also be effective in reducing youth access to guns.

Tracing the Ownership of Crime Guns

Since the early 1970s, ATF has helped solve gun crimes by tracking the ownership of recovered crime guns from their manufacture through their first retail sale, a process known as "tracing." In 1994, law enforcement agencies began to provide ATF with more complete information on recovered crime guns, including the identity of the gun's possessor and of any associates, the date on which the gun was confiscated, and the nature of the crime involved. As ATF merged end-user information with the results of its own tracing investigations, patterns began to emerge. Specific persons were identified as frequent first purchasers of guns later recovered in crime, sometimes over large regions of the country. They could be investigated as potential straw purchasers and could provide links to gun traffickers and corrupt retailers. This was particularly important for identifying the channels that furnished crime guns to persons under age 21, who could not purchase guns for themselves.

In 1996, ATF launched a comprehensive crime gun tracing program as part of its Youth Crime Gun Interdiction Initiative. Participating cities submit tracing requests to ATF for all recovered crime guns. This both helps to solve individual cases and yields a much clearer picture of the dynamics of the illegal gun market.

Table 1

The 10 Firearms Most Frequently Recovered from Juveniles (Persons under Age 18) and Youth (Persons Ages 18 to 24) and Traced by the Bureau of Alcohol, Tobacco and Firearms, 1999[a]

Juveniles		Youth	
Gun	Time to Crime[b] (years)	Gun	Time to Crime (years)
Lorcin .380	3.5	**Lorcin .380**	3.6
S&W .38	15.3	Ruger 9 mm	2.2
Raven .25	12.1	S&W .38	13.1
Davis .380	6.0	S&W 9 mm	4.3
Bryco .380	2.8	**Bryco 9 mm**	1.2
Bryco 9 mm	1.6	**Bryco .380**	2.0
Lorcin .25	6.2	**Davis .380**	5.2
S&W 9 mm	6.1	**Raven .25**	12.2
Ruger 9 mm	4.0	S&W .357	13.4
Lorcin 9 mm	1.6	Mossberg 12 g[c]	4.3

[a] Caliber is given in decimal fractions of an inch unless millimeters (mm) or gauge (g) is specified. Some entries represent more than one specific firearm. For example, Smith & Wesson produces many different .38-caliber revolvers, and ATF groups them together in its annual list of the top 10 most frequently traced crime guns. Lorcin Engineering, on the other hand, produced just one type of .380-caliber pistol until it went out of business in late 1999. Inexpensive pistols manufactured by the Southern California "Ring of Fire" companies are indicated in **bold type.**

[b] Time to crime indicates the length of time between the first sale of a gun by a licensed retailer and its use in commission of a crime.

[c] Shotgun

Source: Bureau of Alcohol, Tobacco and Firearms. *Crime gun trace reports (1999): National Report.* Washington, DC: ATF, 2000.

Table 2

The 10 Firearms Most Frequently Traced by the Bureau of Alcohol, Tobacco and Firearms, 1995–1999[a]

1995	1996	1997	1998	1999
S&W .38	S&W .38	S&W .38	S&W .38	S&W .38
Lorcin .380	**Lorcin .380**	**Lorcin .380**	**Lorcin .380**	Ruger 9 mm
Raven .25	**Raven .25**	**Raven .25**	Ruger 9 mm	**Lorcin .380**
Davis .380	S&W .357	Ruger 9 mm	**Raven .25**	Mossberg 12 g[b]
Norinco 7.62 mm[c]	**Davis .380**	S&W .357	Norinco 7.62 mm[c]	S&W 9 mm
S&W .357	Norinco 7.62 mm[c]	**Davis .380**	Mossberg 12 g[b]	S&W .357
Ruger 9 mm	Ruger 9 mm	S&W .357	S&W 9 mm	**Raven .25**
Mossberg 12 g[b]	S&W 9 mm	Norinco 7.62 mm[c]	S&W .357	Ruger .22
S&W 9 mm	Mossberg 12 g[b]	Mossberg 12 g[b]	**Davis .380**	Norinco 7.62 mm[c]
Bryco .380	Marlin .22[c]	Marlin .22[c]	Marlin .22[c]	Colt .38

[a] Caliber is given in decimal fractions of an inch unless millimeters (mm) or gauge (g) is specified. Some entries represent more than one specific firearm. For example, Smith & Wesson produces many different .38-caliber revolvers, and ATF groups them together in its annual list of the top 10 most frequently traced crime guns. Lorcin Engineering, on the other hand, produced just one type of .380-caliber pistol until it went out of business in late 1999. Inexpensive pistols manufactured by the Southern California "Ring of Fire" companies are indicated in **bold type.**

[b] Shotgun

[c] Rifle

Source: Bureau of Alcohol, Tobacco and Firearms. *Crime gun trace reports (1999): National Report.* Washington, DC: ATF, 2000.

Several states require that data on all recovered crime guns be submitted to ATF.

Regulating Licensed Retailers

One way to decrease the flow of guns to the illegal market is to strengthen oversight of licensed dealers at the federal, state, and local levels. Beginning in 1993, ATF undertook a long-term effort to ensure that federally licensed gun retailers are actively engaged in the legitimate business of selling guns.[32] Inspections increased, and interviews were required for all new applications and selected renewals. These actions were reinforced by the 1993 Federal Firearms Licensee Reform Act, which improved background checks, increased licensing fees, and required new applicants to submit a photograph and fingerprints, and by the 1994 Violent Crime Control and Law Enforcement Act, which required license holders to certify that they were in compliance with state and local laws and regulations. The total number of federal firearms license holders (dealers, pawnbrokers, and manufacturers) fell from a peak of 287,000 in 1993 to 86,180 by October 1999, a 70% drop.[3,33] It is still falling.

Because licensed retailers have been an important source of crime guns for children, youth, and others, a selective reduction in the number of retailers may lead to a decrease in the flow of guns into the illegal market. However, anecdotal reports from gun show observers suggest that some previously licensed retailers who regularly participated at gun shows have continued to do so as unlicensed vendors. If true, this is a disturbing and unintended effect of ATF's program,

One way to decrease the flow of guns to the illegal market is to strengthen oversight of licensed dealers at the federal, state, and local levels.

because under federal law, sales by unlicensed vendors are not subject to criminal background checks.

By 1999, statutes or executive orders in 31 states expanded on federal regulation of licensed gun retailers. The statutes typically include a requirement for state and local licensure, and compliance with such laws is a precondition for obtaining a federal firearms license.[34] States are using these statutes to help eliminate illegitimate retailers. North Carolina found in 1993 that only 26% of federally licensed retailers also possessed its required state license. Those in violation included large retail outlets such as Wal-Mart and Kmart. Noncomplying retailers were required either to obtain a state license or forfeit their federal license.[21] In California, retailers without required state licenses are being jointly investigated by agents of ATF and the state's Department of Justice.

Many local jurisdictions have gone further. The Oakland, California, police department worked with ATF to enforce a requirement that all holders of federal firearms licenses have a local police permit. Obtaining a permit involved a screening and background check. The number of federally licensed retailers fell from 57 before the program began to 7 in 1997.[35]

A very small fraction of licensed retailers accounts for a very large share of ATF's recovered crime guns—perhaps fortunately, in that this will continue to focus intervention efforts. In 1998, just over 1% of licensees accounted for more than 57% of traceable crime guns.[36] As a result, ATF is conducting enhanced surveillance of licensees with 10 or more gun traces linked to them.

The gun industry has maintained that retailers with a large number of gun traces have a large sales volume and that their trace numbers are in line with expectations.[37] However, in California, retailers with more gun traces than would be predicted by their sales volumes—known as high-trace retailers—account for 33% of gun sales, but 83% of gun traces.[38]

Future enforcement efforts are likely to focus on these retailers, who are disproportionately linked to crime guns, and on retailers who report frequent thefts. The number of retailers also will probably continue to decrease; there are only 15,000 to 20,000 gun stores in the United States, still far less than the number of licensed retailers.[39,40]

Screening Prospective Buyers and Preventing High-Risk Purchases

Federal law has long prohibited children, felons, persons under felony indictment, controlled substance users, and certain others from possessing firearms.[41] Background checks and waiting periods can help ensure that these prohibited persons do not purchase guns from licensed firearm dealers.

In 1994, Congress enacted the Brady Handgun Violence Prevention Act, which required a five-day waiting period prior to handgun purchase, and initially also required state or local law enforcement to conduct a criminal record background check. States with preexisting (and generally more restrictive) programs, known as Brady alternative states, continued to operate as they had before.

Over the Brady Act's first five years, all states together screened a total of 12.7 million applications to purchase guns and issued 312,000 denials.[42] In 1999, when checks on prospective purchasers of rifles and shotguns were added, some 204,000 persons—2.4% of those who applied—were denied the purchase.[43] Approximately 70% of denials are for felony convictions or indictments, 10% are for domestic violence misdemeanor convictions, 3% are for domestic violence restraining orders, and the remainder are for other reasons.

In 1998, both the waiting period and the background check were replaced by the National Instant Criminal Background Check System (NICS), administered by the Federal Bureau of Investigation (FBI). During NICS' first year of operation, nearly 90% of background checks were completed within two hours of application; 72% were completed within 30 seconds. Checks that are complicated by missing or incomplete data can take several days. The law, however, allows retailers to release

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guns to purchasers after three business days, whether or not the background checks are completed. By the end of 1999, some 3,353 prohibited persons, most of them felons, had acquired firearms in this manner; just 442 had surrendered their guns. This problem would largely be eliminated if the waiting period for firearm purchases were lengthened for ambiguous cases.[44,45]

Because many states do not operate under the Brady system, procedures for buying guns vary widely from state to state. Thirteen states have waiting periods for handgun purchase, and five have waiting periods for rifle or shotgun purchase. As of June 1999, waiting periods for handgun purchase ranged from as little as 2 days in Alabama, South Dakota, and Wisconsin, to 14 days in Connecticut and Hawaii. The waiting period in New York can be as long as 180 days if needed. In 24 states, gun retailers contact the FBI directly for all background checks. In 15 states, the state conducts all background checks to determine whether the gun sale would violate either state or federal law. In the remaining 11 states, a state or local agency conducts background checks on handgun purchases, and the FBI conducts checks on rifle or shotgun purchases. Altogether, more than 3,000 federal, state, and local agencies conduct background checks.[34]

Screening prospective gun buyers and denying purchases by those who are at risk for future criminal activity has become a widely accepted violence prevention policy. Denial reduces risk for later criminal activity among those whose purchases are denied. In a California study, felons whose handgun purchases were denied were compared with handgun buyers who had felony arrests but no convictions.[46] The felony arrestees—whose purchases were approved—were 21% more likely to be charged with a new gun offense, and 24% more likely to be charged with a new violent offense, than were the felons.

Many violence prevention advocates have argued that denying a gun purchase based on a prior felony conviction or indictment does not go far enough. The 1997 federal Omnibus Consolidated Appropriations Act banned the purchase or possession of guns by persons convicted of a misdemeanor domestic violence offense.[47] Persons subject to active domestic violence restraining orders have been prohibited from purchasing or possessing handguns since 1994. Some 17 states and the District of Columbia now deny guns to persons convicted of selected misdemeanors, typically crimes involving violence, alcohol, or drugs. New Jersey's statute is the most comprehensive, prohibiting the purchase of guns by "any person who has been convicted of a crime."[48]

Limiting Gun Sales

Evidence that multiple-purchase guns are likely to be trafficked and used in crime has led Virginia, Maryland, and California to outlaw such purchases. Virginia's law, effective in July 1993, limited firearm purchases by per-

> Regulating the secondary gun market—sales between private parties—is another way to reduce the number of guns sold to minors.

sons other than retailers to no more than one per month. Prior to that time, Virginia had been a major source state for the Iron Pipeline, responsible for 35% of crime guns recovered in New England. But Virginia accounted for just 16% of New England crime guns that were purchased after the new law took effect.[49] An evaluation of California's law is being conducted by the author and colleagues.

Regulating the Secondary Gun Market

Regulating the secondary gun market—sales between private parties—is another way to reduce the number of guns sold to minors. By 1999, 14 states regulated private sales, requiring that purchasers of guns sold by private parties obtain a permit or undergo a background check at the premises of a licensed retailer or law enforcement agency. Of these 14 states, 6 regulate all private sales of firearms, 1 regulates private sales of handguns and assault weapons, and 7 regulate handgun sales only. In November 2000, Colorado and Oregon adopted statutes regulating private sales of firearms at gun shows but not elsewhere.[34]

California and Maryland are the only states with statutes that specifically regulate gun shows. California requires a show organizer to obtain a Certificate of Eligibility from the Department of Justice and to provide local law enforcement with a list of all sellers at the show. Maryland requires unlicensed sellers at gun shows to obtain temporary transfer permits and comply with the same restrictions imposed on licensed retailers.

Registering Guns and Licensing Owners

Requiring all gun owners to register their firearms and obtain licenses for their use also could cut down on the number of guns illegally transferred to young people. Proponents of this idea argue that a gun confiscated from a young person could be traced to its registered owner, who could then be held liable for transferring it illegally.

A new study suggests that licensing and registration laws may help to disrupt the illegal gun market. Researchers at The Johns Hopkins University examined ATF gun tracing data for cities in states that had both licensing and registration statutes, had one or the other, or had neither. Just 33% of crime guns recovered in cities subject to both licensing and registration laws were originally purchased from in-state gun retailers. By contrast, 72% of crime guns were of in-state origin when only one of these laws was in force; 84% of crime guns came from within the state when neither licensing nor registration statutes had been enacted.[50]

Banning Weapons of Choice

Reducing the availability of poorly made, inexpensive Saturday night special handguns is particularly important for preventing gun violence among children and youth, as the guns' low cost makes them more accessible to young persons. Several states have banned the sale of these types of guns.

In 1989, Maryland created a Handgun Roster Board to develop a list of handguns that could be manufactured or sold legally in the state. A preliminary evaluation of the impact of the Maryland law found that nonapproved guns accounted for a progressively smaller percentage of crime guns confiscated by law enforcement agencies.[51] The ban appears to have had a beneficial effect on crime, producing a 9% decrease in Maryland's homicide rate from what would otherwise have been expected.[52]

In California, more than 40 cities and counties sought to eliminate Saturday night specials by outlawing the manufacture and sale of guns that failed to meet a set of design and materials criteria. Intermediate results varied, apparently as a result of variable monitoring and enforcement.[53] California has since adopted a rigorous set of design and performance standards for all handguns manufactured or sold in the state that took effect on January 1, 2001. It is too soon to know whether the law will reduce gun violence rates.

The best available evidence suggests that comprehensive bans on handguns can be effective as well. In Washington, D.C., such a ban was enacted in the mid-1970s and was associated with a 25% decrease in gun homicide. Washington, D.C., did not experience a comparable decrease (or compensatory increase) in nongun homicide, and no changes in homicide rates were seen in neighboring Maryland or Virginia.[54]

Conclusion

America's youth gun violence epidemic has been shaped and fueled by the ready availability of guns and by pro-gun public policies. Fortunately, researchers are rapidly learning how guns travel from a manufacturer's loading dock into the hands of young people. Straw purchasers, traffickers, unlicensed vendors, and some licensed firearm dealers play a role in helping youth obtain guns illegally. Many of these guns are later used in crimes.

To decrease youth access to gun markets, policymakers and law enforcement professionals are experimenting with new strategies to crack down on corrupt dealers, regulate the private secondary market, and ensure that everyone who buys a gun is legally entitled to do so. Although evaluation data are extremely limited, some of these strategies are showing promise in disrupting the illegal gun market. In the years to come, these strategies should be further refined, to ensure that young people no longer have access to a steady stream of guns from both legal and illegal sources.

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Mitigating the Effects of Gun Violence on Children and Youth

James Garbarino, Catherine P. Bradshaw, and Joseph A. Vorrasi

SUMMARY

Countless children and youth are exposed to gun violence each year—at home, at school, in their communities, or through the media. Gun violence can leave lasting emotional scars on these children. This article reviews research regarding the psychological effects of gun violence on children and youth, and offers suggestions for how parents, school administrators, and mental health workers can mitigate these negative effects.

- Children exposed to gun violence may experience negative short- and long-term psychological effects, including anger, withdrawal, posttraumatic stress, and desensitization to violence. All of these outcomes can feed into a continuing cycle of violence.
- Certain children may be at higher risk for negative outcomes if they are exposed to gun violence. Groups at risk include children injured in gun violence, those who witness violent acts at close proximity, those exposed to high levels of violence in their communities or schools, and those exposed to violent media.
- Parents, school administrators, and mental health workers all can play key roles in protecting children from gun violence and helping them overcome the effects of gun-related trauma.

The authors recommend a number of strategies that adults can adopt to help children cope with gun violence, such as increasing parental monitoring, targeting services to youth at risk of violent activity, and developing therapeutic interventions to help traumatized young people.

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Guns are deeply embedded in American society. Indeed, many people around the world perceive the gun as one of America's primary cultural icons—from Al Capone's machine gun to GI Joe's rifle, or more recently, the shotguns and assault rifles of young gang members and adolescent school shooters. An estimated 43% of American households contain some type of gun.[1] Despite the prevalence of guns in the United States, an ongoing and intense cultural struggle continues regarding their proper place in society, particularly in the lives of children and youth. Most states have laws limiting minors' access to guns. Yet surveys reveal that many youth, perhaps most, believe they could obtain a gun if they wanted to, and research suggests that as many as one in five inner-city teenagers reports carrying a gun at some point in a typical month.[2] (See the article by Blumstein in this journal issue.)

Gun violence is an important aspect of the larger problem of aggression among children and youth, mainly because it dramatically increases the seriousness of any specific aggressive act. Unlike other weapons, a momentary aggressive impulse can become lethal with a gun. For example, with fists, blunt objects, and even knives, the process of killing someone typically takes longer than it does with a gun and provides abundant sensory feedback (such as bleeding, screaming, and imploring) that can inhibit aggressive impulses.[3,4]

Assessing the psychological effects of gun violence on children and youth is complex and difficult for several reasons. First, a young person's "choice" to use a gun is not randomly distributed among the population of aggressors. Research reveals that using a gun indicates a higher level of violent intent than does using fists to fight.[2] Second, the consequences are often very different depending on the role the young person plays in an incident of gun violence—perpetrator, victim, or bystander. Third, relatively little research has focused specifically on the effects of youth exposure to gun violence or on interventions to help youth cope with their exposure.

At the same time, the available research shows that youth can suffer severe and lasting emotional distress from exposure to gun violence, and may become more likely to perpetrate violence themselves. Parents, schools, and communities are adopting numerous strategies to protect young people from exposure to gun violence and to mitigate any harmful effects. This article draws on theory and research to document some of the outcomes associated with exposure to gun violence among children and youth, and to identify strategies for preventing or treating harmful effects of exposure.

This article begins by describing how the trauma of gun violence can affect young people both emotionally and physically. It explores key risk factors for gun-related psychological trauma, including exposure to community violence, violence in schools, and violent content in the media. The article concludes by discussing strategies that parents, schools, and mental health workers can use to protect children from the harmful effects of gun violence and treat children affected by gun-related trauma.

Effects of Gun Violence on Children and Youth

Exposure to gun violence can traumatize children and youth not just physically, but emotionally as well. Studies have documented that young people exposed to gun violence experience lasting emotional scars. Some children may develop posttraumatic stress disorder (PTSD), which can affect brain development. The psychological trauma of gun violence may lead some children to arm themselves "for protection," or desensitize them so that they feel less hesitation about engaging in violent acts.

Psychological Impacts Associated with Exposure to Gun Violence

Young people who are exposed to gun violence may experience negative psychological impacts in both the short and long term. For example, a recent study of rural third- through eighth-graders indicated that children exposed to gun violence reported significantly higher levels of anger, withdrawal, and posttraumatic stress.[5] The problem is exacerbated when youth get caught in a cycle of violence: Those who witnessed at least one incidence of gun violence reported significantly greater exposure to other types of violence, higher levels of aggression, and less parental monitoring than their peers.[5] Exposure to gun violence also can desensitize youth to the effects of violence and increase the likelihood that they will use violence as a means of resolving problems or expressing emotions.

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Sleep Distortion and Withdrawal

Research shows that exposure to violence can cause intrusive thoughts about the traumatic event and sleep disturbances.[6] Therefore, it is not surprising that children and youth exposed to gun violence commonly experience difficulty concentrating in the classroom, declines in academic performance, and lower educational and career aspirations.[7,8] Other outcomes associated with exposure to violent trauma include increased delinquency, risky sexual behaviors, and substance abuse.[7,8]

Exposure to gun violence can cause children and youth to withdraw from the very people who may be best equipped to help them—friends and family. Researchers at the University of California Los Angeles (UCLA) Trauma Psychiatry Program conduct interventions with young people who have sustained or witnessed violent injury. Their research suggests that exposure to gun violence affects the quality of youth friendships. For example, wounded adolescents are particularly focused on the physical scars resulting from their injuries because the scars are daily reminders of the trauma.[8] These injuries can disrupt social relationships, because they often prompt questions from peers or even strangers about the event—questions that only perpetuate the distress. Victims or those exposed to violence often become estranged from friends who were with them during the trauma,[8] because seeing people who were involved in the incident can remind them of it.

Wounded and violence-exposed youth may experience other disruptions in their relationships with important peers and family members. Some young people experience survivor guilt after witnessing the violent victimization or death of a peer. Studies at UCLA indicate that many survivors and bystanders agonize during the event about whether to flee from the danger in self-preservation or to stay to aid their victimized friend. Memories of this dilemma can be extremely distressing. Furthermore, bystanders' actions can affect their subsequent relationship with the victim, because many victims report feeling angry when bystanders and friends do not intervene.[8]

Posttraumatic Stress Disorder

In some cases, exposure to gun violence can lead to PTSD.[3-5,8,9] PTSD in children is typically associated with hypervigilance (an overly alert state), an exaggerated startle response, anxiety, and recurring thoughts and dreams associated with the traumatic event.[10] Traumatized children may attempt to avoid people, places, or objects that remind them of the trauma. "Psychic numbing" also can occur, causing children to detach emotionally from others and show decreased interest in activities they once enjoyed.[10] Some trauma witnesses have difficulty expressing their emotions, lose their temper easily, or exhibit outbursts of anger.

Based on studies of how children's brains adapt to trauma, researchers at Baylor Medical College have concluded that a distinctive pattern of brain activity develops in response to exposure to threatening stimuli.[11] The greater the intensity and frequency of stimulation—and thus the distinctive brain activity—the more likely that the brain will form "an indelible

Living in communities where violence is common can negatively affect children's development, even if they are not directly exposed to violent activity.

internal representation" of the trauma. Recurrent exposure to the trauma strengthens this response and lowers the child's ability to deal with any type of trauma. The child's brain becomes highly sensitive to threat and trauma-related cues, which in turn can affect his or her emotional and psychological well-being.[11] Several studies have documented that children with a history of trauma develop a persistent, low-level fear, and respond to threats either with dissociation (separating certain ideas or emotions from the rest of their mental activity to avoid stress or anxiety) or with an unusually heightened state of arousal.[11,12] This pattern of brain activity may also affect children's general information processing.[13] For example, children who have experienced trauma may misinterpret ambiguous stimuli as threatening.

Children do not have to witness gun violence directly to develop symptoms of traumatic stress. After hearing about incidences of gun violence or learning about them on television, children may feel that their safety is threatened.[14] Teens may respond to this threat by adopting what they perceive as "protective behaviors," such as joining a gang or arming themselves with guns or knives.[15] Many youth associate great power with carrying or having access to a gun.

Conversely, some youth may perceive the media attention to youth gun violence as attractive and commit "copycat" shootings or try to "outdo" publicized school shootings.[16] For example, some of the recent school shooters (including Eric Harris and Dylan Klebold, the shooters at Columbine High School in Littleton, Colorado) reported that they planned a "better" school ambush by learning from the "mistakes" of other publicized school shooters.[3] (See Box 1.)

Risk Heightened by Exposure to Violence in the Community, at School, and in the Media

The degree of exposure, the relationship with the victim, and the presence of other risk factors (such as preexisting mental health problems) influence the severity of the lasting effects of gun violence.[17,18] Children and youth with several risk factors, in combination with few protective factors, seem to suffer most from exposure to gun violence. The psychological effects of gun violence are especially serious for children and youth who are physically injured.[8] They are left with traumatic memories and feelings of insecurity, as well as physical injuries or scars that remain as permanent reminders of the trauma.

Children exposed to gun violence in their own homes also are at great risk for developing symptoms of PTSD, especially if the victim is a family member. Exposure to gun violence in shared spaces, such as neighborhoods or schools, also increases the risk of physical injury and trauma for bystanders who witness the event.[19] Witnesses of such violence are reminded of the trauma every time they pass the street corner or enter the building where the shooting occurred.[17]

Although children are especially at risk for psychological trauma if they are directly exposed to or victimized by violence, other factors, such as exposure to violence in the community, in schools, or in the media, also can put children at risk.

Exposure to Community Violence

Living in communities where violence is common can negatively affect children's development, even if they are not directly exposed to violent activity.[20] The effects of high levels of violence within a community are similar to those associated with direct exposure and can include nervousness, sleep problems, intrusive thoughts, anxiety, stress, loneliness, depression, grief, and antisocial behavior.[21] Violence-exposed children also may show a decline in cognitive performance and school achievement. Repeated trauma can lead to anger, despair, and severe psychic numbing, resulting in major changes in personality and behavior.[17]

Furthermore, youth living in violent communities may experience "pathological adaptations" such as hopelessness, fatalistic thoughts, desensitization to violence, and truncated moral development.[22] These youth often participate in high-risk behaviors such as alcohol or drug abuse, promiscuous sex, or association with dangerous people.[19]

Age and social and cognitive development are key determinants of how children respond to community violence.[23] For example, the effects of community gun violence can be particularly severe if exposure occurs during critical periods of neurological growth and development, such as early childhood and early adolescence.[12] Children who are exposed to traumatic events before age 11 are three times more likely to develop PTSD than children over age 12.[24] However, adolescents who witness a single episode of violence, such as a school shooting, may experience greater stress than younger witnesses because they feel guilty about surviving and about not being able to help other victims. These feelings of guilt, coupled with anger and the desire for revenge, can make this type of violence exposure particularly difficult for teens.[25]

Violence is all too common in urban areas, but living in a rural area does not prevent children from being exposed to gun violence. A study of more than 2,000 young people in rural Ohio indicated that 25% had experienced gun violence at least once. One study of elementary and high school students in rural Louisiana found that 80% of the students had a gun in their home.[26] Only a few of these students (7% of girls and 20% of boys) had received any gun safety training, indicating that the risk for gun violence may be significant for nonurban youth, many of whom have access to shotguns or handguns. These findings may not be surprising, as gun ownership of all types is more common in rural than in urban areas.[5]

Box 1

Adolescent Boys and Violence

Males are the most frequent perpetrators and victims of school shootings.[a] The fact that seemingly "normal" boys from what appear to be stable families, good schools, and safe communities are using guns and other weapons to commit heinous school shootings disturbs many children and adults. A national survey of American 13- to 17-year-olds conducted in 1999 found that 52% of teenagers thought that an attack such as the one at Columbine High School could happen in their school.[b] In a similar national poll conducted with adults, nearly a year after the shooting at Columbine, 70% of those polled believed that such a shooting could happen at a school in their community.[c]

When considering how to prevent school shootings, parents, school administrators, and mental health workers need to understand the complex attitudes that many adolescent boys have toward violence. Interviews with adolescent boys across the United States suggest that many boys are afraid not only of becoming victims of school shootings, but also of being falsely accused of having the potential to commit such violence.[a] Additionally, the interviews reveal that boys may fear their own aggressive and angry emotions and become hesitant to disclose their feelings to others.

Much of the confusion and mixed emotions these boys feel may stem from society's views of masculinity and how boys are supposed to act and resolve their problems. As one Harvard University psychologist has written, "As long as nobody is seriously hurt and no lethal weapons are employed—especially within the framework of sports and games—aggression and violence are widely accepted and even encouraged in boys."[d] Society's acceptance of certain forms of aggression and not others is confusing for boys, the psychologist points out, and playing violent video games and listening to music that glorifies violence may provide emotional outlets for them.

[a] Pollack, W. *Real boys' voices.* New York: Random House, 2000.

[b] Goldberg, C., and Connelly, M. Poll finds decline in teen-age fear and violence. *New York Times*, October 20, 1999, at A1.

[c] CNN. *Are U.S. schools safe?* (2000). Downloaded from http://www.cnn.com/SPECIALS/1998/schools/index.html on March 7, 2002.

[d] See note a, p. 200.

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As with direct exposure to violence, exposure to media violence may spur some children and youth to commit violent acts.

Exposure to Violence in Schools

Statistically speaking, children are safer at school than anywhere else.[27,28] They are less likely to be attacked, injured, or killed in school or on school property than elsewhere in the community or at home. However, although victimization rates at school are lower than elsewhere, schools are not safe havens. Violence in schools or other shared spaces can be particularly stressful for young people.

Despite overall decreases in nonfatal violent youth victimization between 1992 and 1998, the victimization rate at schools (approximately 130 per 1,000 students) did not change.[27] In anonymous self-report surveys administered in 1995 to 12- through 18-year-old students across the United States, 9% of respondents—an estimated 2.1 million teens—reported that they avoided certain places in their school because of safety concerns.[29] This rate represents a significant increase, almost doubling from 5% in 1989. In addition, in 1999, some 5% of students reported feeling concern for their safety while at school or while traveling to school.[27]

In some cases, the threat is real. Approximately 8% of students reported that they had been threatened or injured at school with a weapon (for example, a gun, knife, or club) during the last 12 months, a rate that remained stable from 1993 through 1997.[27] In 1996, 5% of 12th-graders from urban and nonurban schools reported that they had been injured with a weapon while at school or on school property during the last 12 months.[29]

A 1994 survey of school board members from different U.S. districts indicated that even though students and staff are generally safe at school, a nationwide fear of school violence exists.[30] More than 80% of school board members reported that the fear of school violence negatively affected morale, effectiveness, and academic performance for students, teachers, and administrators in their districts. Three-quarters of American public school students live in districts with 5,000 or more students, and these larger districts have the highest level of concern about school violence. For example, 92% of board members from districts with 25,000 or more students expressed great concern about violence in their schools, with concern highest among board members from the Southern and Pacific regions.

Contrary to public perception, the risks of serious violent victimization at school are roughly equal for students attending urban and nonurban schools. Nevertheless, urban students are more vulnerable than nonurban students to serious violent crime in the community.[27] Some research suggests that rural and suburban students' perceptions of safety at school are changing in response to nationally publicized school shootings.[14,30] Some of these concerns may derive from the sense that contemporary school shooters target "innocent" victims, whereas many observers perceive youth violence in the community (such as gang violence) as partially caused by the victims' choices.[3] However, no national data that address this issue are available, because studies focusing on the risks of violence for nonurban youth are not common.

Media Violence

According to the Center for Media Education, by the time children complete elementary school, they will witness more than 100,000 acts of violence on television, including 8,000 murders. These numbers double to 200,000 acts of violence and 16,000 murders by the time they complete high school.[31] This bombardment of media violence in television, films, and video games seems to negatively affect some young viewers, priming them to act aggressively.[32] As with direct exposure to violence, exposure to media violence may spur some children and youth to commit violent acts.

Violence in Films and Television

Television and movie violence can affect subsequent displays of aggression by modeling and glorifying violence, triggering aggressive impulses in some people, and decreasing feelings of empathy for victims.[32] Content analyses of prime-time television indicate that perpetrators of gun violence typically are depicted as using guns to protect themselves, which gives the impression that guns are important for self-protection.[33] Furthermore, perpetrators are seldom held accountable for their actions. Death and physical injuries from gun vio-

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lence are usually glossed over or totally overlooked.[34] Even the mass television coverage of school shootings can contribute to violent behavior, as with copycat shootings. Some highly impressionable youth may see the publicity surrounding a school shooting as exciting and an opportunity for infamy.[3,35]

Video Games

Another form of popular media entertainment for youth is violent video games. The combination of technological advances and a growing demand for intensity and arousal has substantially altered video game content. The latest generation of games is much more violent and accurate in its depictions of violence than its predecessors were, with many lifelike images of blood, guts, and gore.[4] Data indicate that children and adolescents prefer violent video games to all others.[36] Some scholars suggest that violent video games, because of their interactive and participatory nature, are even worse for children and teenagers than violent television programs. Playing these video games allows young people to practice violence—often gun violence—in ways television does not.[37]

Several studies have demonstrated that teenagers who play violent video games are more likely to engage in aggressive behavior and violence than are children who play nonviolent video games.[37,38] Much less is known about the link between playing violent video games and later perpetrating gun violence. However, the experience of the military suggests that video games are an effective tool for training people to use firearms.

According to one professor of military science, "first-person shooter video games"—which involve firing a lifelike digital gun at human forms that pop up on the television screen—teach children how to kill the same way that flight simulators teach pilots to fly without leav-

Parental responses to gun violence are especially important because the way parents cope with traumatic events largely determines their children's response.

ing the ground.[4] Indeed, the military has long used first-person shooter simulations to train soldiers to target their enemies. When American soldiers in World War II were trained to fire at bull's-eye targets, only 15% of the soldiers were able to shoot their rifles at individual enemy soldiers. Their training never broke the human inhibition to fire a gun at another human being. In response, the U.S. military moved toward training soldiers to fire at simulated human forms resembling those now seen in popular video games (such as, *Doom, Area 51*, and *Golden Eye 007*). By the end of the Vietnam War, the military human target hit rate jumped to 95%.[4]

A vivid example of the training provided by first-person shooter video games is the 1998 school shooting in Paducah, Kentucky. Fourteen-year-old Michael Carneal, who had only one day's practice with a stolen pistol, fired eight shots at a high school prayer group. He hit eight people, five in the head or upper torso. The families of the victims have filed a $130 million lawsuit against video game manufacturers whose first-person shooter games allegedly taught the boy to kill with the precision and efficiency of a well-trained soldier.[4]

Protecting Children from the Harmful Effects of Gun Violence

Parents, school administrators, and mental health workers all have roles to play in protecting children and youth from exposure to gun violence and in helping them overcome the effects of gun-related trauma. Parents can closely monitor their children's behavior, environment, and media use. Schools can identify and target services toward students who may be at risk for perpetrating gun violence, but they must be careful not to create a climate of fear. Finally, mental health workers can develop and implement intervention programs that help youth cope with gun violence.

Parents' Role in Protecting Children

Parental responses to gun violence are especially important because the way parents cope with traumatic events largely determines their children's response. In fact, one of the best predictors of children's reactions to a potentially traumatic experience is their parents' reaction or level of functioning.[39] During the height of the German bombing of England in World War II, for example, children in London measured the danger that threatened them chiefly by gauging their parents' reactions.[40] When parents break down or panic in response to gun violence, children suffer,[41] because emotionally disabled or immobilized parents seldom offer their children what they need to cope successfully with traumatic experiences.[42] These parents tend to engage in denial and to misinterpret the child's signals and needs, making them emotionally unavailable to their children.

Parents face some daunting challenges in protecting their children from gun violence, not least of which are social expectations that they bear responsibility for their children's actions. They can address these challenges by closely monitoring their children's behavior, environment, and exposure to violent media.

Monitoring the Child

Acknowledging that no family is immune to the threat of gun violence is an important starting point for parents. Until the mid-1990s, many parents believed that youth gun violence plagued only inner-city neighborhoods, schools, and communities.[5] But the wave of school shootings that occurred in the late 1990s made many parents realize that no community is free from the threat of youth violence. Although school shootings are rare and account for only a small portion of all youth gun violence (see the article by Fingerhut and Christoffel in this journal issue), the grisly televised images of wounded children, students barricaded in classrooms or closets, and innocent children being killed by their classmates brought youth gun violence to the forefront of the American consciousness.[3]

Parents can acknowledge the danger of gun violence by being alert to signs that their own children might be prone to violent behavior. Communities commonly respond to youth gun violence by blaming other adults—often school officials or the perpetrators' parents, who "should have known" that children were going to commit violent acts.[43] Although no empirical studies have specifically addressed this issue, anecdotal evidence indicates that youth may provide some clues that they are plotting armed attacks.

For example, one of the most controversial issues arising from the 1999 massacre at Columbine High School in Littleton, Colorado, was whether the parents of shooters Eric Harris and Dylan Klebold should be held accountable for their children's actions. Members of the Littleton community and the public questioned how the boys' families missed so many red flags, such as the boys' admiration for Adolf Hitler, obsession with violent video games, and stockpiling an arsenal of semiautomatic guns, grenades, and the materials to construct some 30 bombs. When the police searched Harris' bedroom, they found a shotgun, ammunition, a bomb, and a timeline of what was to happen on the day of the massacre—materials the parents could have discovered before that fateful morning.

However, parents may find it difficult to detect a child's impending transition from "troubled teen" to "killer" for many reasons.[3] Teenagers hide many things from their parents,[44] and they act differently around their parents than they do around their peers.[45] Moreover, peers and adults in the school or community often do not share disturbing information about teens with their parents. Finally, it seems disloyal to most parents to "think the worst" of their children.[3]

Monitoring the Environment

Parents who are concerned that their children may become victims or perpetrators of gun violence can alter their parenting behavior to compensate for dangers in the children's social environments.[46] One parenting practice that has been researched extensively is parental monitoring, which involves tracking and attending to the child's activities and whereabouts.[47] Research reveals that well-monitored children and youth are less likely to smoke, use drugs and alcohol, engage in risky sexual behavior, become antisocial or delinquent, and socialize with deviant peers.[47,48]

Though parental monitoring may protect children from many of life's temptations and dangers, can it protect them from gun violence? Interviews conducted with 10 mothers in the public housing projects of inner-city Chicago suggest that the answer is yes, at least in some settings. According to these mothers, closely monitoring children and adolescents is the only way to protect them from the widespread gang activity and gunfire that are characteristic of their community.[49] Similarly, studies indicate that many parents in urban areas try to compensate for the unpredictability of their environment by setting greater restrictions on their children's behavior and using more physical discipline.[50]

Monitoring the Media

Parental interest in regulating the amount of violent imagery children watch has grown in recent years.[31] Complicating matters, the deregulation of children's television programming has increased parents' responsibility for monitoring their children's television viewing. The growing demand for monitoring technology such as the V-chip suggests that American parents are struggling with the task.[51]

Similarly, there are efforts to impose—and, in some cases, enforce—age restrictions or recommendations on certain forms of violent media. Such efforts include restricting admission to R-rated movies, placing warning labels on music with explicit lyrics, and providing recommended audience ages for prime-time television shows. These initiatives are self-imposed and self-regulated by the entertainment industry, but many adults support stricter legal restrictions on children's access to certain forms of violent material.

In addition, many American parents are beginning to limit their children's access to violent video games in response to findings that they have played a role in the proliferation of youth violence, and that children with certain risk factors, especially signs of peer rejection and emotional instability, should have limited exposure to point-and-shoot video games.[4] Some communities also are taking action to restrict children's access to video arcades. The city of Indianapolis, for example, has prohibited children under age 18 from playing violent video games in arcades without a parent present.[52] Distributors of arcade video games have filed lawsuits that may overturn this action, but other cities have expressed interest in imposing similar restrictions. Legislation pending in Congress also would impose greater restrictions on access to violent video games and other types of violent or age-sensitive media.

Some school efforts to prevent gun violence on campus may foster more fear rather than a sense of security.

Schools' Attempts to Prevent Gun Violence

Schools face the difficult task of preparing for the possibility of school violence without creating a climate of fear. Nonetheless, prevention may be the best alternative to inaction or hysteria.

An essential aspect of school violence prevention is performing an effective and in-depth assessment of threats of violence. To avoid "profiling" potential school shooters, the Federal Bureau of Investigation (FBI) has developed a guide for teachers and school administrators to use after a student has made threats of violence.[53] The FBI urges school administrators to watch for warning signs that can include a low tolerance for frustration, depression, lack of empathy, exaggerated sense of entitlement, excessive need for attention, inappropriate humor, rigid views, fascination with violent entertainment, access to guns or weapons, and high exposure to violent media.[53]

To help reduce the risk of violent incidents in schools, the FBI suggests that school administrators provide guidance to parents on issues such as the importance of restricting exposure to violent media,[53] and on the need to be aware of their children's peer group and activities, to seek active involvement in their children's life, and to avoid giving children an inordinate amount of privacy. Beyond educating the family, the FBI recommends that administrators evaluate their school's culture and its contribution to the potential threat of gun violence. Indicators that could be monitored include the prevalence of bullying or social cliques, the level of comfort that students feel in sharing concerns with teachers and administrators, and even the physical layout of the school.[53] For example, researchers at the University of Michigan have studied "unowned places": undefined territories within schools that are associated with violence and crime.[54] According to this research and similar studies,[55] hallways, dining areas, bathrooms, and parking lots are often centers for school violence because they are "unowned" and frequently unoccupied by school personnel.

However, some school efforts to prevent gun violence on campus may foster more fear rather than a sense of security. Metal detectors, bars on windows, and surveillance cameras may make students feel unsafe or that they are not trusted.[54] Similarly, emergency drills may send the message to expect a shooting, creating a climate of suspicion and anxiety among students and faculty. Furthermore, some experts note that if schools rely on "zero tolerance policies" and simply expel students who make threats, such practices may actually exacerbate the danger by inflaming students who are already at risk for violent activity. Rather, they suggest, administrators should make a careful assessment of potential risks (including access to weapons in the home or community) and direct these students toward mental health services if necessary.[53]

Therapeutic Interventions with Youth Exposed to Gun Violence

Treating victims of gun violence involves healing both physical and emotional wounds and mitigating the factors that can perpetuate the cycle of violence. One promising approach is therapeutic group intervention.

Trauma-focused group interventions have successfully treated violence-exposed and victimized children and adolescents, but these programs are rare.[7] When clinicians from the UCLA Trauma Psychiatry Program began a school-based therapy program in the early 1990s for teenagers who had sustained or witnessed violent injury, they discovered that virtually none of the victims had received any form of psychological assessment or therapeutic intervention beyond treatment of their physical injuries.[8] The intervention that UCLA adopted addresses the youth's traumatic experiences and posttraumatic stress reaction, including reminders of the trauma (such as scars), bereavement issues, and developmental disruptions (such as abandoned academic goals).[8]

The greatest challenge in providing services for traumatized youth is identifying who has been exposed to violence.[7] Most young people do not seek support services and, quite often, family members and school personnel are unaware of the youth's exposure. Consequently, a more uniform identification and referral procedure is needed, particularly in communities with high rates of gun violence. Schools appear to be the most promising avenue for successful identification of and therapeutic intervention for exposed and victimized youth.[5,6]

Mental health services for these youth need to be both systematic and sustained, in contrast to short-term crisis intervention, because the severity of children's reactions to trauma can wax and wane over time. Just as effects of PTSD and exposure to violence vary with the youth's age, so do his or her service needs. Therefore, a developmentally appropriate approach is essential for effective intervention.[6]

Conclusion

Exposure to gun violence profoundly affects children and youth—even if they are not the direct victims or perpetrators. Psychologically, exposure to violence can normalize the use of violence to resolve conflicts. Socially, it can limit young people's ability to develop healthy relationships and friendships. Victims of gun violence also may suffer permanent physical damage, both visible (scars) and invisible (altered patterns of brain activity). Finally, children exposed to violence may do poorly in school and stop hoping for a productive and happy future. All of these outcomes can feed into a cycle of continuing violence.

Until recently, most of the psychological effects of gun violence have gone unanalyzed and unrecorded. However, the high-profile school shootings in the late 1990s have led to heightened awareness of and concern about the effects of gun violence on young people. These events have increased psychologists' understanding of the effects of gun violence on youth, and of the actions parents and schools can take to mitigate those effects. For example, parents can actively prevent exposure to gun violence by monitoring their children's activities and exposure to violent media. Parents also should seek professional help when they know their children have been directly exposed to or victimized by gun violence, even if they do not appear to be psychologically affected.

Schools can address the issue of youth gun violence by effectively identifying and referring violence-exposed youth to mental health services. School administrators also can create safer environments for students by altering the social and physical structure of the school, and by helping children feel connected to and supported by their teachers and peers. Finally, school administrators and mental health professionals can sponsor group interventions for violence-exposed and victimized students by adopting effective treatment approaches, such as those developed by the UCLA Trauma Psychiatry Program.[7,8]

Working together, parents, school administrators, and mental health professionals can help to prevent gun violence and to minimize children's exposure to violence when it does occur. The potential rewards of such efforts are clear: fewer children and youth injured and killed by guns or burdened with the long-term emotional scars that result when young people witness violence.

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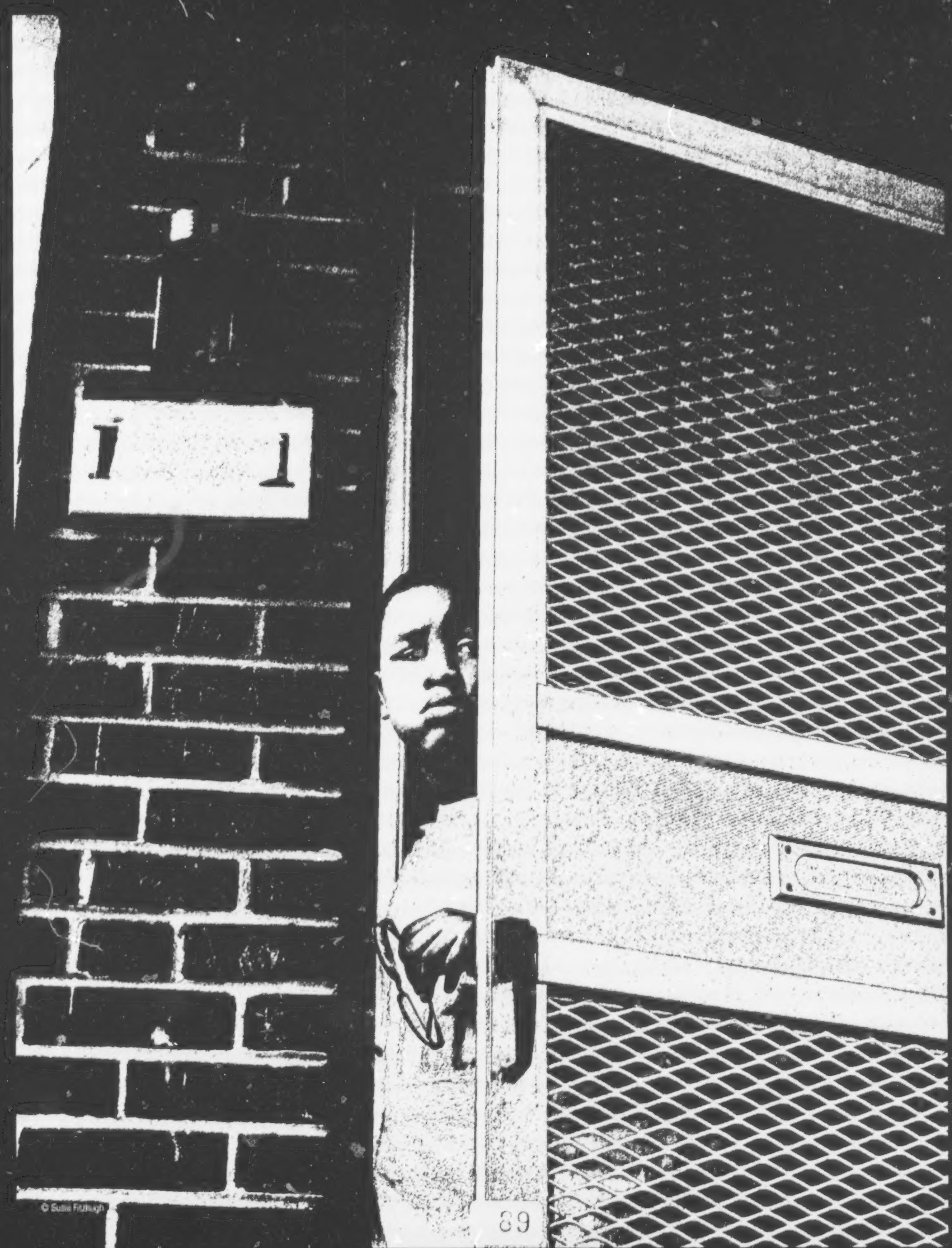

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The Costs of Gun Violence against Children

Philip J. Cook and Jens Ludwig

SUMMARY

Gun violence imposes significant costs on children, families, and American society as a whole. But these costs can be difficult to quantify, as much of the burden of gun violence results from intangible concerns about injury and death. This article explores several methods for estimating the costs of gun violence.

One method is to assess how much Americans would be willing to pay to reduce the risk of gun violence. The authors use this "willingness-to-pay" framework to estimate the total costs of gun violence. Their approach yields the following lessons:

- Although gun violence has a disproportionate impact on the poor, it imposes costs on the entire socioeconomic spectrum through increased taxes, decreased property values, limits on choices of where to live and visit, and safety concerns.
- Most of the costs of gun violence—especially violence against children—result from concerns about safety. These are not captured by the traditional public health approach to estimating costs, which focuses on medical expenses and lost earnings.
- When people in a national survey were asked about their willingness to pay for reductions in gun violence, their answers suggested that the costs of gun violence are approximately $100 billion per year, of which at least $15 billion is directly attributable to gun violence against youth.

The authors note that in light of the substantial costs of gun violence, even modestly effective regulatory and other interventions may generate benefits to society that exceed costs.

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For some, the title of this article may conjure up a dry accounting exercise, calculating medical expenditures and earnings lost because of injury. But an accounting of this sort, while common enough, misses the point. Public concern about gun violence has little to do with the resulting burden on the health care system or the reduction in the labor force due to death and disability. Rather, the costs of gun violence that truly matter, especially for children and their families, have everything to do with concerns about safety. Avoiding and preventing gun violence is a costly enterprise in both the public and private spheres, but most parents (and other community members) would be willing to pay even more if they could reduce that threat further. The cost of gun violence, then, is the flip side of the value of safety.

In recent years, the United States has benefitted from a substantial increase in safety from violence. (See the articles by Blumstein and by Fingerhut and Christoffel in this journal issue.) The immediate economic benefit of this reduction has included savings in criminal justice and medical costs. More importantly, lower violence rates have played a leading role in stimulating a renaissance in many central cities. Cities have become more livable and attractive because they are safer. That change is worth billions of dollars, as demonstrated by rising urban property values.[1-4]

A major exception to this trend is concern about school gun violence. Although school shootings remain quite rare (see the article by Fingerhut and Christoffel), with the shootings at Columbine High School in Littleton, Colorado, and elsewhere, even suburban schools no longer seem like a safe haven. It would be worth a great deal to reestablish the sense of security in schools that prevailed as recently as the mid-1990s.

These observations are helpful in understanding the economic burden that gun violence places on American society. Quite simply, the threat of death and injury reduces the standard of living in a variety of ways. Translating that insight into specific dollar estimates is not easy, because the value of safety from gun violence is subjective and only partly reflected in market transactions. But the practical difficulties of developing a reliable estimate are not insurmountable.

Estimates of this sort are intended to provide guidance in evaluating policies to reduce gun violence. Violence-reduction programs compete for resources with activities that could enhance the quality of life in other domains. Placing a dollar value on enhanced safety may seem a bit mechanistic, but it is necessary when deciding how much, if anything, to invest in each of the myriad possible programs for reducing gun violence. More generally, it may help judge the value of greater safety against other programs to help youth in areas such as education, health, and housing.

This article is based on research published in a recent book, *Gun Violence: The Real Costs*,[5] which develops an estimate for the overall costs of gun violence, including criminal assault, suicide, and unintentional injury. The article begins by summarizing some of the patterns of gun violence risk to children and by explaining why gun violence is of greater concern than violence with other commonly used weapons. It continues with an analysis of the ways in which the threat of gun violence imposes costs on the community. The article then reviews techniques for estimating the costs of gun violence, and assesses how much people would value a reduction or elimination of gun violence, based primarily on their responses to questions in a national survey.

The total costs of gun violence to society are approximately \$100 billion per year, of which roughly \$15 billion is attributable to gun violence against youth. A related finding is that the costs of gun violence are far more widely distributed across the population than victimization statistics would suggest. Although gunshot injuries disproportionately afflict the poor, the threat of gun violence reduces the quality of life for all Americans by engendering concerns about safety, raising taxes, and limiting choices about where to live, work, travel, and attend school.

Guns and Youth Violence

Guns exact a huge toll on America's children and youth, both in terms of lives lost and in terms of quality of life. (See the articles by Fingerhut and Christoffel and by Garbarino, Bradshaw, and Vorrasi in this journal issue.) Injury data for American youths under age 20 reveal that the threat of gun violence differs widely by sex, race, and ethnicity: 85% of all gun fatalities involving young victims are males (a 5.5 to 1 disparity with females), and the racial gaps are even greater. Table 1 presents the relevant statistics for gun fatalities and, for the sake of comparison, for highway fatalities. The statistics are limited to males, as they constitute the bulk of these fatalities. The racial and ethnic patterns for females' gun fatalities follow the same patterns, at a lower incidence level.

These statistics reveal large racial disparities in homicide rates due to gun violence; the rate for black males is 2.4 times as high as that for Hispanic males, and 15.3 times as high as that for non-Hispanic white males. For black families, the chance of their male children dying from a gunshot wound is 62% higher than the chance of dying in a motor vehicle crash. For Hispanics, the chance of dying by gunfire is about the same as that of dying in a crash, whereas for whites, motor vehicles are a greater threat than guns.

To translate these threats into more meaningful terms, consider a black family with two boys. What is the chance (given the firearm death rates that prevailed in 1998) that the parents will lose one of their sons to gunfire by age 20? The answer is about 1 in 115, or close to 1%, with almost all of that risk coming from homicide. For whites, the answer is about 1 in 512, with most of the risk stemming from suicide. Hispanics are in between, at about 1 in 260, mostly from homicide. These statistics are for fatalities; for every gun homicide victim, there are five or six gunshot victims who survive, some with permanent disabilities. For unintentional shootings, the ratio of nonfatal to fatal injuries is roughly 13 to 1. Thus, the hypothetical black family faces at least a 1-in-20 chance that one of their sons will be shot while growing up. That is a national average: The risk is many times higher if they live in an Atlanta housing project than in a Boston suburb. However, even the national averages are high enough to highlight the importance of gun violence as a threat to children's safety.

Of course, guns are not the only weapons used to perpetrate assaults. In the United States in 1998, more than three million violent crimes were committed against people under age 21,[6] and fewer than 10% of them involved a gun.[6-8] The significance of gun violence is that its fatality rate is much higher than that of assaults with other weapons. As a result, nearly two-thirds of homicides in 1998 were committed with a gun. The same pattern holds for suicide: 50,000 or more adolescents attempt suicide each year,[9] but most fatalities occur in the relatively small fraction of attempts in which a gun was used. It appears that whether victims of violence live or die depends to a great extent on the type of weapon available to the perpetrator.[10]

Guns also have a unique capacity to project fear, simply because security against them is harder to buy than for knives, clubs, and fists. Drive-by knifings and accidental beatings are virtually unheard of. On the other hand, guns kill at a distance and stray bullets may find an unintended victim almost anywhere. The perception of risk—of no safe place—is further exacerbated by the sound of gunfire.

In short, the type of weapon matters. Guns intensify violence and spread terror in heavily impacted neighborhoods. As a result, the goal of separating guns from violence is an important one, somewhat distinct from the goal of reducing overall violence rates. Even if a program to reduce gun use resulted in a one-for-one replacement of assaults and suicide attempts with other weapons instead of guns, this outcome would still be socially beneficial because the injuries would be less serious on average, and the impacts on neighborhoods would be less severe. Fewer families would lose a child to violence.

Table 1

U.S. Fatality Rates per 100,000 Population, 1998 Gun Violence and Motor Vehicle Crashes Males, Ages 0 to 19

	Black	White	Hispanic
Gun Homicide	17.76	1.16	7.34
Gun Suicide	2.21	3.06	1.52
Gun, Unintentional	.97	.52	.48
Overall Gun Fatality Rate	21.58	4.88	9.64
Highway Fatality Rate	13.26	13.25	10.65

Source: Centers for Disease Control and Prevention. WONDER mortality system. Downloaded from http://www.wonder.cdc.gov/wonder on December 7, 2000.

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Types of Costs Attributable to Gun Violence

Victimization statistics indicate that gun violence is highly concentrated within a narrow sociodemographic slice of the population. Yet a consideration of economic costs suggests that the burden of gun violence is shared much more broadly across society, affecting taxes, residential choice, fear, and freedom of movement.

Taxes

Increased tax expenditures to prevent gun crime are perhaps the most obvious way that gun violence affects the quality of life of all households in the United States. For example, most criminal homicides are committed with guns; if a gun had not been available, many of those violent incidents would have ended in cuts or bruises instead of death. Homicide, however, is rightfully considered a far more serious crime than is assault with injury, and is prosecuted and punished more severely. The estimated cost to taxpayers of processing the "extra" murder cases resulting from the higher fatality rate in gun assaults is approximately $2.4 billion per year.[11,12] Although there is no guarantee how that money would be spent if it were not allocated to the criminal justice system, it is instructive to note that an additional $2.4 billion would be enough to increase Head Start's annual budget by almost 40%.[13]

Taxpayers also pay for tight school security to protect students from gun violence. For example, nearly 1 in 10 high schools in the United States conducted random metal detector checks on students in 1996–1997, and around 1 in 50 schools nationwide required all students to walk through metal detectors on the way into school every day.[14] While statistics are not yet available, the proportion of schools that use such preventive measures has almost certainly increased since the shootings at Columbine High School in April 1999.

Although school efforts to protect against the threat of gun violence are a national phenomenon (see the article by Garbarino, Bradshaw, and Vorrasi), the problem

Arguably, the threat of gun violence reduces the quality of life for all children in America, even those who are not victimized.

is still most acute in urban areas. Consider, for example, the preventive measures undertaken by the Chicago public school system, which spends approximately $41 million each year for school security personnel in addition to the costs of purchasing and maintaining walk-through metal detectors for every school. While some of these expenditures would remain even if gun misuse was eliminated, because knives and other nongun weapons would still pose a threat to student safety, expenditures would almost certainly be lower in a world without gun violence.

Residential Choice

For families, the largest investment in increased safety from violence is often embedded in the decision of where to live. Choosing a safe neighborhood and schools may come at the cost of economizing on space, enduring a long commute, and losing easy access to the cultural amenities of the central city. Research demonstrates that the rate of out-migration from central-city neighborhoods is highly sensitive to homicide rates.[15]

Fear

Families who cannot afford to move to a safer neighborhood are left attempting to protect their children as best they can. The stories from violence-ridden public housing projects are particularly striking. One single mother living in Chicago's public housing reported, "At night you had to put your mattress on the floor because bullets would be coming through the windows. It was like Vietnam."[16] In other urban neighborhoods, children are taught by their parents to hide under beds or in bathtubs at the sound of gunfire. As the *New York Times* reported, "When the leader of a Christian missionary group asked a group of children in the Cooper housing project [in New Orleans] to name some things they worry about, a 7-year-old girl raised her hand and said 'Dying.' After the class, the children ran screaming from the playground when the sound of a machine gun ripped through the air. It was 11:57 A.M." A mother in a different public housing complex in New Orleans reported, "I got a letter from this one little girl. She said her goal in life was to live to graduate high school."[17]

Freedom of Movement

The fear of being shot causes some people to avoid particular areas at certain times and others to avoid going outside at all, which in turn reduces the overall quality of community life. Consider the case of Washington Heights, a neighborhood in New York City, where for years people were afraid to venture outside because of the threat of gunfire. One police officer assigned to the area said, "We found people who had lived across the street from each other for 25 years and had never seen each other." According to one resident, "We were hibernating like bears." Another remarked, "I've got to get over my fear. It controls you. It does not allow you to be. It makes you feel like a prisoner when you have not committed a crime."[18]

When the Department of Housing and Urban Development implemented an experimental program of housing vouchers in Boston (as part of the Moving to Opportunity program, which provided subsidies for low-income families to rent apartments in higher-income neighborhoods), evaluators found that by far the most important reason families signed up for the program was fear of crime and violence in the housing projects. The "opportunity" that they sought was a safer environment, where parents did not have to organize their lives around protecting their children. One of the mothers told the interviewer that she was not concerned that her children would be specifically targeted, but that stray bullets were always a threat.[19]

Although residents of high crime areas are most likely to be directly affected by gun violence, arguably, the threat of gun violence reduces the quality of life for all children in America, even those who are not victimized. The most important costs may be intangible, stemming from the fear children and their parents experience owing to the threat of gunshot injury. Measuring intangible costs is complicated but necessary for developing an accurate picture of the overall costs of gun violence toward children.

Valuing Safety

Considerable effort and resources are devoted to avoiding, preventing, and coping with violence, including gun violence that threatens youth. Despite these efforts, a substantial threat of victimization remains, as demonstrated in Table 1. A comprehensive scheme for assessing the costs of gun violence requires an estimation of value for that remaining threat, as well as for avoidance and prevention efforts. Standard techniques for assigning a value to the threat of injury and death attempt to put a price on life. But it is not lives that should be valued so much as the risk of death. It is logically equivalent but perhaps more palatable to say that what is being valued is safety.

This section of the article introduces a method for assessing the value of safety: the "willingness-to-pay" approach. This approach yields a more complete estimate of the costs of gun violence than other benefit–cost methods do, particularly when it comes to children.

Placing a Value on Human Life

The idea of conducting a benefit–cost analysis in the area of crime and injury avoidance may strike many as wrongheaded and disturbing. Life should be priceless. Actually, economists would agree up to a point, noting that human lives are "priceless" in the sense that they are not regularly bought and sold in the marketplace. Moreover, no feasible sum of money can fully compensate the family and friends of the victims of fatal gunshot injuries.

Nevertheless, assessing the value of human life and the risk of death is a necessary part of public policy. Reducing gun violence directed at children is surely a good thing, but it competes for limited resources with many other good things. Determining whether any program to reduce gun violence should be expanded or discontinued requires some assessment of the consequences. Both benefits and costs must be measured in the same metric—namely, dollars.

For example, courts regularly place a price on life and limb in setting damages for personal injury suits; more to the point, legislatures and regulatory agencies are routinely required to decide how much an increment in safety is worth. When Congress established a national speed limit of 55 miles per hour in 1974, the highway fatality rate dropped dramatically.[20] But much of the public, including commercial trucking interests that lost time and money because of lower speed limits, eventually demanded a return to higher speed limits, despite the likely increase in fatalities that would result, and Congress complied. Individual consumers are also forced to make decisions in the face of what might be thought of as a "quality–quantity" tradeoff for their lives. Should they spend more to obtain a car with antilock brakes, or save the money for their child's college fund? Should they pay an extra $10,000 to buy a house that is farther away from the local nuclear power plant?

Estimating the value of life in the context of gun violence is complicated because policymakers and private citizens must make judgments about the value of reducing the risk of gunshot injury in the future, before the identity of those who will be injured is known. While most people would give up much of their net worth to save themselves or a loved one from certain death, their willingness to pay for small reductions in the risk of death is more limited. The summation of what people will pay for small reductions in the probability of death defines the "value of a statistical life." For example, if each person in a community of 100,000 is willing to pay $50 to reduce the number of injury deaths in that community by one per year, then the value of a statistical life to those residents equals $5 million.

People's "willingness to pay" to reduce the risk of gunshot injury presumably depends on how that risk affects them, their families, and their communities. Sometimes the monetary value of greater safety comes straight from a spreadsheet. For example, the sharp declines in violent crime rates during the 1990s have brought windfall gains in property values to many property owners in urban neighborhoods. But primarily at stake are intangible commodities not traded in the marketplace—freedom from the threat of gun violence, and relief from the necessity of taking steps to reduce the threat.

Children as a Special Case

Valuing safety for children poses a special problem, because much of that value comes from the fact that their futures are at stake. Presumably the adults that children will become if they successfully avoid gun violence (and other hazards) would be willing to contribute something to make them safer as children. But in fact, the only way that their future selves have a "voice" is if their families express it for them, or if they themselves are farsighted enough to recognize the value of protecting their future.

Children and, most importantly, adolescents are often so present-oriented that they take risks that their adult selves would never allow. (See the article by Hardy in this journal issue.) For example, adolescent suicide is often a response to anger or despair engendered by problems that an older person would recognize as transitory. And homicide victimization is in many cases the result of behavior so risky that it is tantamount to suicide, or perhaps Russian roulette. One recent study found that inner-city drug dealing presents a great risk of being shot for meager compensation, a tradeoff that amounts to just $55,000 per life.[21] That is not a "price" that should be taken seriously in setting policy priorities. But if parents and neighbors have a voice in placing a value on children's lives, the result will likely be much closer to an appropriate valuation.

Willingness-to-Pay vs. Cost-of-Illness Methods

The "willingness-to-pay" (WTP) approach to benefit-cost analysis leads to a very different picture of the monetary costs of gun violence from the standard public health "cost-of-illness" (COI) approach. As Table 2 shows, the COI approach defines the costs of gun violence as the medical expenses incurred by victims plus lost productivity. This method ignores most of what is captured in WTP: the subjective value of safety, concern about others' welfare, and the costs of prevention and avoidance.

Medical expenses and lost productivity actually make up very little of the societal burden of gun violence.[22] For example, the net cost of medical treatment to victims for all gunshot injuries in 1997 was only about $1 billion. The effect of gunshot injuries on labor force productivity is also quite small, especially given the reasonable possibility that workers lost to gun violence could be replaced through immigration.

There are two important conclusions here. First, the COI framework is inappropriate for evaluating public programs to reduce gun violence. Second, its application to children's gunshot injuries has the effect of understating their cost to society.

Table 2

Types of Costs That Gun Violence Imposes on Society

Cost Method	Types of Costs Included	Examples of Costs
Public health "cost-of-illness" (COI) approach	Tangible costs to victims of gun violence	Medical expenses Lost productivity
Economic "willingness-to-pay" (WTP) approach	Intangible costs to society from threat of gun violence Tangible expenditures to reduce risks of gunshot injury	Concern for safety of self and loved ones Costs of prosecuting and punishing gun crimes Metal detectors Flight to suburbs

A broad cross section of the public is affected by gun violence, as shown by the substantial proportion of households who are willing to pay more in taxes each year to reduce gunshot injuries.

Quantifying the Costs of Gun Violence

Families and government agencies undertake substantial preventive activities in response to the threat of gun violence, which provides some evidence that society's willingness to pay to reduce gunshot injuries may be quite significant. However, estimating that willingness to pay can present a significant challenge.

One of the standard methods for estimating the value of reductions in injury risk is to examine people's marketplace behaviors. For example, a number of studies have attempted to estimate the value that people place on the risk of workplace accidents by studying the wage premium paid to those who work in high-risk occupations.[23] This approach is impractical for estimating the costs of gun violence, however, in part because no good data are available on the risks of gunshot injury for different occupations. Even if such data existed, isolating the effects of injury risks on wages from the effects of other job characteristics is quite difficult. More generally, the wage premium associated with, for instance, a 30% reduction in a worker's personal risk of injury will understate many potentially important benefits that individuals derive from programs to reduce gun violence by 30% in society as a whole, such as reductions in risk to family and friends or reductions in preventive activities.

The most straightforward approach for estimating what people would pay to reduce gun violence in society is to ask them directly, within the context of a social science survey. This section of the article quantifies the overall costs of gun violence to society using this "contingent valuation" (CV) method to value society's willingness to pay to reduce gun violence. The estimates suggest that the American public is willing to pay $24.5 billion to reduce gun violence by 30%. Including the costs of suicide and accidental shootings increases the total value of eliminating all gun violence to $100 billion, of which approximately $15 billion is attributable to improvements in youth safety.

The Contingent Valuation Approach

The CV approach attempts to infer what people will pay for goods that are not bought and sold in the marketplace, such as improvements to health and safety, by creating hypothetical market scenarios. The CV method has a long tradition within the field of environmental economics. Although contingent valuation remains somewhat controversial within the broader economics profession,[24] for the purposes of studying the costs of gun violence, the CV method is less imperfect than its alternatives.

The CV estimates reported in this article represent the first use of this method to estimate the costs of crime. The data come from a nationally representative telephone survey of 1,200 American adults conducted in 1998 by the National Opinion Research Center (NORC) at the University of Chicago, one of the nation's leading survey organizations. (See the article by Smith in this journal issue.) After a series of questions regarding their attitudes toward government and various current or proposed gun regulations, respondents were asked:

> Suppose that you were asked to vote for or against a new program in your state to reduce gun thefts and illegal gun dealers. This program would make it more difficult for criminals and delinquents to obtain guns. It would reduce gun injuries by about 30%, but taxes would have to be increased to pay for it. If it would cost you an extra [$50/$100/$200] in annual taxes, would you vote for or against this new program?

The amount of the tax increase that the respondents were asked about—either $50, $100, or $200—was randomly determined by the survey software, so answers for each of the three dollar amounts were given by approximately one-third of the sample. Respondents were then asked a follow-up question in which the dollar amount in the initial question was either doubled or halved, depending on whether the initial answer was positive or negative, respectively.

Survey Results

The survey results suggest that a broad cross section of the public is affected by gun violence, as shown by the substantial proportion of households who are willing to pay more in taxes each year to reduce gunshot injuries. As Table 3 indicates, 76% of respondents reported that they would pay $50 more per year in taxes to reduce crime-related gunshot injuries by 30%, while 64% said they would pay $200 more in taxes. A formal statistical analysis indicates that the average American household would pay $239 more per year in taxes to fund such a program.

Children's safety plays an important part in people's willingness to pay to reduce gun violence, as shown by the significant differences in what households with and without children would be willing to pay. Holding constant other household characteristics, such as income and number of adults, the difference in WTP between households with and without children under age 18 is $108.

Given the total number of households in the United States—approximately 102.5 million in 1998[25]—all households together are willing to pay an estimated $24.5 billion to reduce assault-related gunshot injuries by 30%. If the difference in WTP between households with and without children is $108, then the value of reducing the risk of gunshot injury to youth specifically by 30% is equal to the premium that households with children are willing to pay: at least $3.8 billion.

The Value of Eliminating Crime-Related Gun Violence

The public's WTP to eliminate all crime-related gunshot injuries can be approximated by multiplying the WTP for a 30% reduction by 3.33. The resulting estimate is $82 billion, of which $13 billion ($3.8 billion times 3.33) relates to concern for children's safety by members of their immediate household. The true value of children's safety will be higher to the extent that friends and extended family members are also concerned.

This estimate is valid to the extent that the value of a reduction in injuries is proportional to the relative magnitude of the reduction. The estimated value of a total reduction in gun violence may be too high if the public derives diminishing returns from additional reductions in gun violence. However, the value of completely eliminating the risk of gun violence could have greater-than-proportional value, because it would remove a major threat to the safety of children and families, creating significant economic and psychological benefits.

Several external benchmarks suggest that these survey responses are reasonable. First, the results of the NORC

Table 3

Willingness-to-Pay Survey Results 1998 National Gun Policy Survey

	How would you vote on a program to reduce gunshot injuries by 30% that cost $50 more per year in income taxes?	How would you vote on a program to reduce gunshot injuries by 30% that cost $100 more per year in income taxes?	How would you vote on a program to reduce gunshot injuries by 30% that cost $200 more per year in income taxes?
Percentage voting in favor of program	75.8	68.5	63.6
Number of question respondents	400	400	404

Source: Adapted from Cook, P.J., and Ludwig, J. *Gun violence: The real costs.* New York: Oxford University Press, 2000.

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survey can be used to generate an estimate of the value per statistical life saved. That estimate is consistent with estimates derived from analyzing actual marketplace data from other contexts, such as the wage premium associated with riskier jobs or the negative house price premium associated with living closer to a Superfund site.[23,26]

Second, the general pattern of responses to the gun survey seems reasonable. For example, households with more income are more likely to support higher taxes to reduce gun violence. Households with more children are also more likely to vote to reduce gun violence, presumably because such households experience a greater benefit from the intervention than do families with fewer members.

Finally, a recent study[27] finds that the average household currently spends around $1,800 per year in taxes and other expenditures to fund the criminal justice system and private protective measures. Thus, it seems plausible that the average household would spend an additional $239 per year to reduce the threat of gunshot injury by 30%, particularly because the fear of crime in America appears to be driven largely by the threat of violent crime.[15,28]

Adding Gun Suicides and Accidents

Estimating the total costs of gun violence, beyond the costs of a reduction in crime-related gunshot injuries, requires additional assumptions. Because the NORC survey captures only crime-related gun violence, estimating the costs of gun suicides and unintentional injuries requires other sources of information.[29] These estimates should be viewed with some trepidation because they are derived from people's willingness to pay to reduce nongun injuries, and exclude the value of whatever preventive measures are undertaken to protect against the risk of unintentional or self-inflicted gunshot injuries.

The estimates suggest that the costs of gun suicides and accidents range from $10 billion to $20 billion per year; adding this figure to the estimated costs of crime-related gun violence ($82 billion) brings the total costs of all gunshot injuries in the United States to approximately $100 billion. Using the ratio of youth costs to total costs from the survey results discussed above, the annual value of eliminating all gunshot injuries to youth is at least $15 to $16 billion.

Conclusion

Although it is not possible to be precise, the national costs of gun violence are roughly $100 billion per year, with $15 billion or more attributable to gun violence against youth. The tangible costs to the victims from medical expenses and lost productivity are only a small part of the overall problem. The real burden of gun violence comes from the cost of public and private efforts to reduce the risks, and the fear of victimization that remains despite these efforts.

An important conclusion, then, is that the costs of gun violence are far larger than the public health community's traditional COI approach would suggest, and that these costs affect everyone in America. But another important conclusion is that while the costs of gun violence—or equivalently, the benefits of reducing gun violence—are large, they are not infinite. One informal slogan held by some gun control advocates is that any intervention targeted against gun violence is worthwhile "so long as one life is saved." As a guide for serving the public interest, this slogan is not helpful.

Nonetheless, a variety of gun-oriented interventions do appear to generate benefits in excess of costs. One of the more promising gun control regulations is to require that all new handguns incorporate a built-in personalization device, such as a combination lock or microchip that reads a fingerprint. (See the article by Teret and Culross in this journal issue.) These and other available devices would make the weapons inoperable by unauthorized users, including children, despondent teens, or juvenile delinquents, who almost always obtain their guns in the secondary market.[30] (For an explanation of the secondary market, see the article by Wintemute in this journal issue.) The idea of mandating personalized gun technologies has been criticized in part because they will add to the price of new handguns. But if the technology ultimately adds $100 to the price of a new gun, this regulatory requirement will generate benefits that outweigh costs so long as at least one shooting is prevented per 10,000 units sold.[31] The effects of personalized gun technology should easily clear this bar, given that every 10,000 handguns sold are involved in about 3,000 robberies and assaults and 100 homicides.[8,32]

The stakes are high in preventing gun violence against America's children. Determining the full cost of gun violence provides useful guidance in assessing which gun violence prevention proposals are worthwhile and which are not. Such estimates also give a surprising picture of the burden that gun violence—especially violence against children—imposes on American society. It is not just a problem for inner-city residents and families with suicidal adolescents; it affects everyone. With such estimates in hand, Americans can make better-informed decisions about the tradeoffs involved in protecting the safety of children and youth.

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Behavior-Oriented Approaches to Reducing Youth Gun Violence

Marjorie S. Hardy

SUMMARY

Advocacy groups on both sides of the guns issue frequently point to changing personal behavior—of both parents and children—as a key element in reducing gun violence among youth. Efforts to bring about these changes range from community-based campaigns, to laws and programs that encourage parents to store their guns safely, to educational initiatives that focus on keeping young children away from guns and encouraging youth to resolve disputes without violence.

Unfortunately, these behavior-oriented programs have not shown great success in reducing youth gun violence. This article reviews the research surrounding behavioral approaches to gun violence prevention and highlights obstacles that hamper the effectiveness of these programs.

- Supportive communities can play a key role in protecting youth from violence in general, but the few community-based violence prevention programs that focus on youth have not been shown to decrease youth access to or use of guns.
- By and large, behavioral programs and legal interventions aimed at parents have not been proven to reduce youth gun violence. This may be due in part to parental misperceptions about children's risk of injury and ability to protect themselves.
- Children and youth are particularly difficult targets for behavioral change programs. Cognitive immaturity among younger children and perceptions of invulnerability among adolescents may be part of the reason. Most programs that seek to persuade youth to stay away from guns have not been proven effective.

The author concludes that, although behavioral programs could be improved, overall they hold only limited promise for reducing youth gun violence.

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Public policy efforts to reduce gun-related deaths and injuries among youth often meet resistance from those who cite education as the key to "gun proofing" children. However, behavioral approaches to reducing firearm violence—programs to change the behaviors of parents and children regarding guns—rarely have been evaluated, and those that have been have not demonstrated great success. Though well-intentioned, many of these approaches are poorly designed, and some may even have the inadvertent effect of making the problem worse. Nonetheless, politics, legal considerations, and an intuitive sense that behavioral programs work ensure their continued use.

One explanation for the failure of behavioral programs may be found in research examining the prevention of injury and violence in general. According to this research, injury prevention efforts can be classified along a passive–active continuum, from eliminating hazards from the environment (passive) to teaching safe behavior (active). Passive prevention efforts require no effort at all on the part of individuals (for example, choosing not to own a firearm). Some active efforts require a one-time behavior (such as placing and keeping a trigger lock on a gun); others require a moderate amount of effort (such as locking up a gun after each use); and still others require constant effort (such as supervising children). Researchers agree that the more effort a prevention strategy requires, the more difficult it is to implement.[1,2] Modifying the behavior of parents or children is thus more difficult than modifying the environment or the firearm itself. (See the article by Teret and Culross in this journal issue.)

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Drawing upon lessons learned from general injury and violence prevention research, this article examines behavior-oriented approaches to reducing youth firearm injury and violence. First, it briefly describes community-based interventions that focus on reducing youth gun violence. Second, the article explores working with parents to reduce children's unsupervised access to guns, and it assesses two approaches toward modifying parents' behavior concerning gun ownership and storage. Third, it examines developmental considerations and difficulties in working with children and assesses several child-based approaches to reducing youth firearm violence. The article concludes with recommendations for improving educational approaches to reducing youth gun violence—and cautions that no matter how well such programs are designed, their ability to keep children safe from gun violence may be limited.

Community-Based Interventions

Communities can play an important role in reducing youth violence. A recent study by the Group for the Advancement of Psychiatry found that access to firearms poses a particularly serious risk to youth who live in communities where violence is widespread. On the other hand, the study cited supportive communities as key to protecting youth from violence.[3]

For these reasons, many approaches to reducing youth violence target communities as a whole. These campaigns typically link community resources such as hospitals, law enforcement, businesses, schools, the media, and social service providers. The goal is to bring members of the community together to assess the extent of the problem and to empower them to be part of the solution.[4] Gun-free school zones, community revitalization efforts, after-school programs to keep children off the streets, and media promotions through billboards, mass mailings, and public service announcements are all examples of community activities aimed at modifying the behavior of individuals within communities.

Although community campaigns to reduce youth violence in general are common, few focus specifically on

Box 1

Model Community-Based Violence Prevention Programs

The National School Safety Center, a nonprofit organization that aims to prevent school violence and promote safe schools, describes model community violence prevention programs as incorporating the following:

1. Respect for the culture of the community as a whole and for individuals within the community
2. Problem-solving approaches
3. Acknowledgment of fear as a reality in the lives of children
4. Assessment of successful practices in other communities
5. Youth involvement
6. Formation of both formal and informal leaders
7. Ambitious but realistic program goals
8. Recognition of the community's limits and links
9. A means for assessment and evaluation

Source: Arrendondo, S., Aultman-Bettride, T., Johnson, T.P., et al. *Preventing youth handgun violence: A national study with trends and patterns for the state of Colorado.* Boulder, CO: Center for the Study and Prevention of Violence, 1999.

reducing firearm violence. Two programs that have had this focus are the Safe Kids/Healthy Neighborhoods Injury Prevention Program in New York and Safe Homes and Havens in Chicago. Both programs were designed to target the neighborhood and to reduce children's exposure to handguns, educate residents about violence prevention, and provide children with a safe place in which to play. The Safe Kids/Healthy Neighborhoods Injury Prevention Program, which included a playground revitalization and supervision component, was found to reduce gunshot injuries in the community in which it was implemented. However, a similar finding was noted in a control neighborhood, suggesting a general trend in the community rather than an effect of the program.[5] The Safe Homes and Havens program was not evaluated and is no longer being implemented.

Because community campaigns are multifaceted, it is difficult to evaluate their effectiveness. Even for campaigns associated with reductions in gun-related injuries and deaths, it is nearly impossible to determine which of the many individual components of the campaign may be responsible. Nonetheless, the National School Safety Center believes that programs incorporating the elements described in Box 1 may be successful in reducing youth gun violence.

Working with Parents

Parents are frequently the target of behavioral programs designed to keep children, particularly young children, safe. These programs usually seek to persuade parents either to remove guns from their homes or to store guns safely (unloaded and in locked storage areas). Working with parents to promote child safety is fraught with challenges, however. Two common approaches to changing how and whether parents store guns in their homes—Child Access Prevention (CAP) laws and pediatric-based counseling—appear to show only limited promise in convincing parents to change their gun ownership and storage practices.

Challenges in Working with Parents

Several obstacles present challenges when working with parents to reduce their children's likelihood of injury, including gun injury. These include the level of parental interest and involvement in their children's lives, parental beliefs that their children are at little risk

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Parents seem to be especially unaware of their children's interest in guns and are unable to predict how their children will behave around guns.

of injury, and parental misperceptions about their children's ability to protect themselves.

First, children at risk for injury typically come from disadvantaged homes[6-8] and tend to be poorly supervised.[7] In addition, mothers of injured children tend to be less educated, to be emotionally overwhelmed, to lack energy, and to be less involved with their children. These mothers are often less assertive and energetic in dealing with their children and more resistant to behavioral change.[8]

Another obstacle to working with parents to reduce gun-related injuries to their children is that parents often hold false beliefs about their children's risk for injury. Most parents believe that their children are unlikely to be the victims of a serious injury. Furthermore, they view injuries as unavoidable products of fate.[9,10] Parents tend to believe that the environment, rather than the person, must change in order to protect children from injury, which may lead to complacency and a lack of faith in programs designed to alter parental behaviors or the behaviors of their children.[9,10]

Parents seem to be especially unaware of their children's interest in guns and are unable to predict how their children will behave around guns. In a recent study of boys ages 8 to 12, only 13% of the boys' parents believed that their sons had a high interest in firearms; 64% believed that their sons had a low interest. Apparently the parents were mistaken. Of the boys whose parents perceived them to have a low interest in guns, 65% handled a .38-caliber semiautomatic handgun when they found it in a drawer. Thirty-five percent pulled the trigger.[11]

Another misperception of parents is that a painful injury will teach their children to be more careful in the future.[12] Research has not supported this "once burned, twice shy" assumption. In fact, children at risk for injury are typically children who have been previously injured.[13] Other parents hold false optimism about the safety of their children—optimism that is reinforced every time their children engage in a dangerous behavior that does not result in injury.

The final obstacle to working with parents is their overconfidence in their children's ability to take care of themselves. Most parents believe that their children know more about safety than the children actually do,[14,15] and may therefore feel confident in leaving their children unsupervised for brief periods of time. In one survey, most parents agreed that preschool children require constant or close supervision, but felt that elementary-age children require constant supervision only in risky situations and close supervision in moderately risky areas.[16] Other parents make even more dangerous appraisals of their children's abilities. In one study, 13% of mothers of two-year-olds in Sweden believed that their children could safely cross a street on their own.[17] (The American Academy of Pediatrics [AAP] recommends that children ages seven and younger always be supervised when crossing a street.[18]) In another survey, 23% of a sample of gun-owning parents reported that they trust their 4- to 12-year-old children with a loaded firearm.[19]

Gun Violence Prevention Approaches with Parents

Two very different approaches target behavior change among parents: legislative efforts to hold parents responsible for gun ownership and for their children's behavior, and gun safety counseling by health care providers. Although data are limited, research thus far indicates that these approaches are not very effective at convincing parents to alter their firearm ownership or storage practices.

Child Access Prevention Laws

Seventeen states have enacted some type of CAP law, holding parents or other adults responsible for unsafe storage of guns in their home. The scope of this law varies widely across states, as shown in the appendix to this article. In most states, the law applies only if a minor gains access to the gun, and in most states, violation of the law is a misdemeanor.

Opponents have questioned the need for CAP laws. Some argue that the laws intrude upon the privacy rights of gun owners and upon the rights of parents to raise and supervise their children as they see fit.[20] Some researchers also assert that it is easier to persuade parents to behave differently than to legislate parental behavior change,[5] and that positive approaches to behavior change are more effective than coercive approaches.

Others argue that enforcement of CAP laws is unlikely, because punishing parents who already suffer from tremendous guilt or from the loss of a child might be seen as cruel. Other laws that regulate parental behavior, such as laws mandating the correct use of car safety seats for children, are rarely enforced.[21] Likewise, experts agree that in the case of pediatric firearm deaths, judges and juries would be unlikely to convict grieving parents.[22] Thus far, only a handful of individuals have been cited for violating a CAP law. In one instance, for example, a mother was arrested when her eight-year-old son shot his nine-year-old half brother with a handgun. The neighbor of the mother was quoted in a news article as saying, "I don't know [why] they need to charge her with something. To me, it seems like losing your son would be punishment enough."[23]

The effectiveness of CAP laws in changing parents' gun-storage practices has also come under scrutiny. Some argue that there is no evidence that criminal liability legislation holding parents responsible for the delinquent acts of their children (such as drug use or gang activity) has altered parents' behavior.[24] Other critics assert that a child who wants access to a weapon can find one easily, even if one is not stored in the home. In 1992, for example, researchers surveyed 970 high school juniors in Seattle, Washington; 34% reported that they could easily obtain a handgun. When asked where they would get the gun, only 7% said they would obtain it from home.[25]

Young children, however, are more likely to be involved in unsupervised accidental firearm incidents than in homicides or suicides, and the guns they use are typically found in their own homes.[26-28] Up to 50% of parents who own guns keep them loaded and unlocked.[29,30] Gun owners may believe that their children do not know where their gun is or, if they do know, that they would not touch the gun without permission. In a survey of 109 children and parents, however, nearly 14% of children reported that they knew where their parents' gun was kept, even though the parents of these children reported independently that the children did not know. Most alarmingly, 21% of the children who said their parents owned a gun reported having touched or played with that gun without permission.[31]

In support of the effectiveness of CAP laws, researchers in one study found that unintentional shooting deaths in 12 states, particularly among children under age 10, had declined by 23% in the years following the introduction of CAP laws from 1990 to 1994.[29] A follow-up study, however, found that firearm deaths declined significantly only in the 3 states in which violations of the law are a felony. In the other 14 states with CAP laws, where violation is a misdemeanor, the law had no statistically significant effect.[32]

Gun Safety Counseling

The other approach to altering parent behavior is through education, typically delivered by health care providers. The AAP recommends counseling on home safety procedures as part of well-child visits, as the physician's practice may be an ideal setting in which to intervene with at-risk populations.[33] A number of studies have demonstrated the effectiveness of messages from family physicians in increasing safety-related behavior, such as use of bicycle helmets, car seats, and cabinet latches.[34,35] Physicians also have counseled parents successfully on reducing the risk of sudden infant death syndrome (SIDS) by placing infants on their backs to sleep.[36]

Researchers have found that counseling is more effective when conducted face-to-face, when the parents are made to feel that the suggestions are in part their own, and when the course of action meets the parents' needs; counseling is less effective when physicians simply distribute safety pamphlets.[34,35] One obstacle to counseling is that parents tend to become "overwhelmed or confused by the number and variety of safety practices recommended."[37] Another is that one-on-one counseling takes time, something that physicians rarely have. In fact, less than two minutes of a well-child visit are typically spent on health education.[38] In a recent survey of health care providers who serve families with children ages five years and younger, 80% reported that they believe they should counsel on firearm safety, yet only 38% reported that they actually do.[39] One explanation may be that physicians underestimate the number of families in their practice who own guns. In a recent comparison of physicians' predictions to actual gun ownership, pediatricians predicted a 0% likelihood of ownership for 33% of their families. Of those families, 30% reported owning at least one gun.[40]

Individual counseling may not be the most effective way to convince patient families to change their firearm use and storage practices in any case. In a survey of patients in 11 family practices, respondents reported that they did not view their physician as a credible source of information on firearm safety.[41] Furthermore, according to a recent randomized, controlled trial involving 311 families, a single 60-second firearm safety counseling session during a well-child visit did not result in significant changes in gun ownership or storage practices among the families who initially reported owning guns.[42] Even more discouraging are the results of a recent study involving parents of depressed youth. Among gun-owning families advised to remove the guns from their home because of the significant risk of suicide by their depressed adolescent, only 27% actually did so.[43]

One of the most widely used physician-based programs to educate parents about the risks of keeping a firearm in the home is the Steps to Prevent Firearm Injury program (STOP). This program was originally developed in 1994 by the Brady Center to Prevent Gun Violence and the AAP, and was replaced by STOP 2 in June 1998. Free of charge to physicians and parents, the program includes brochures and posters, a list of suggested readings, an audiocassette, and counseling tips. A recent study found that the STOP intervention did not result in a statistically significant decline in gun ownership or in improved gun-storage practices among families in a sample of inner-city pediatric patients.[44] Evaluation of the STOP program bears replicating, however, as this study was limited by the lack of a control group and an inadequate sample size.

Overall, interventions with parents have shown little success in decreasing children's access to guns in the home. Unfortunately, as the rest of this article indicates, interventions with children have not shown much promise for reducing youth gun violence either.

Working with Children

Although the appropriate target of interventions designed to protect young children is the parent, the focus may change in later years when the child is less likely to be supervised. Like programs for parents, however, approaches directed toward children have not met with great success. Many factors contribute to the difficulty of convincing children to change their behavior and make it unlikely that counseling children to stay away from firearms will succeed.

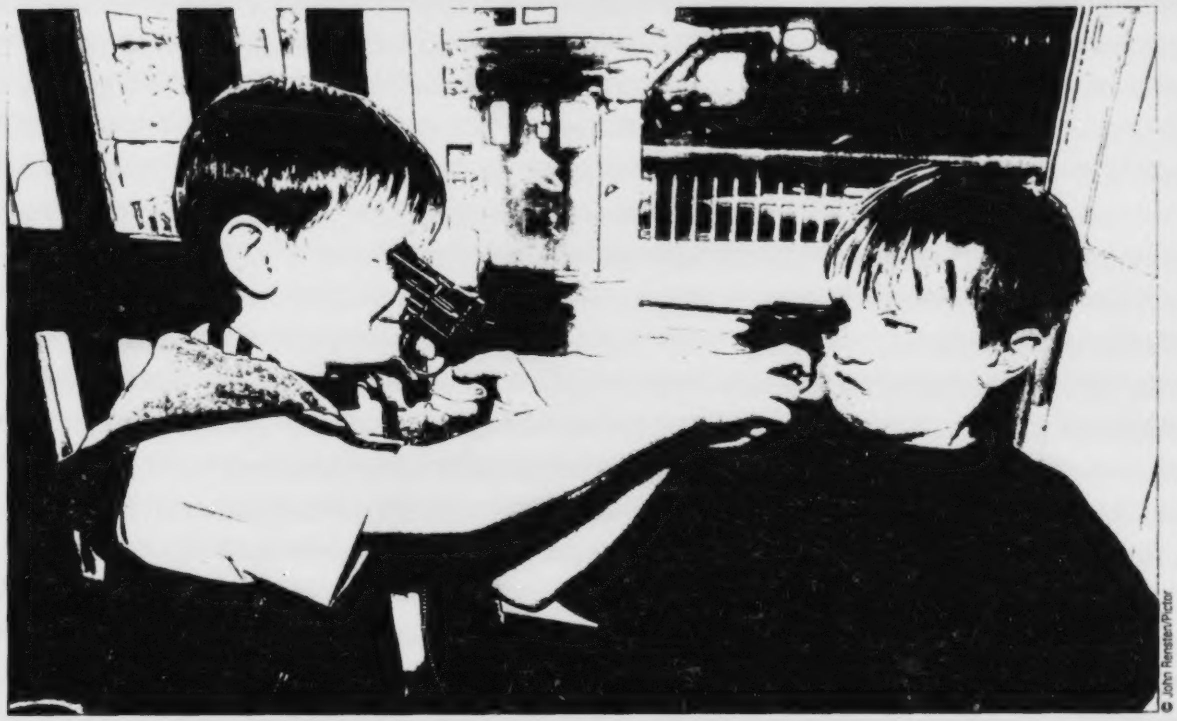
Challenges in Working with Children

General injury and violence prevention research may help explain why behavioral programs targeted at children are rarely successful. Gender differences between boys and girls, cognitive immaturity among children, and an inability to apply lessons learned in a classroom all play roles in undermining the receptiveness of children to behavioral programs.

Gender Differences

Multiple studies indicate that boys are at greater risk than girls for both injury and violence. Differences between the sexes in injury rates begin to emerge around age three and increase thereafter.[26] Researchers have concluded that boys seem "especially drawn to the items that could result in injury,"[45] and are more likely to incur most types of outdoor play injuries, including falls, drownings, burns, and bicycle accidents than are girls.[46] A study of the behavior of children around firearms also revealed that boys also are more likely than girls to play with a gun.[47]

The reasons why boys are at greater risk for injury present some obstacles to developing programs to prevent firearm injury. Compared to girls, boys tend to be more confident in their abilities and less fearful of injury.[48] Furthermore, boys rate potentially dangerous situations differently than do girls.[49] When appraising dangerous situations, girls ask themselves, "Will I get hurt?" Boys ask themselves, "How badly will I get hurt?"[50] Boys are more likely than girls to believe that they will not get hurt when engaging in risky behaviors, more likely to rate the potential injury severity as low, and more likely to attribute actual injury outcomes to bad luck than to their own behaviors.[51] These differing thought processes lead girls, but not boys, to avoid situations in which they have received a minor injury; boys are more likely than girls to repeat behaviors that have previously led to injury.[52] Interestingly, although parents accurately consider their boys to be at greater risk for injury than their girls,[46] they nonetheless give their boys more independence, supervise them less closely,[17,46] and even encourage their risk-taking behavior.[46]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Cognitive Immaturity

The cognitive immaturity of children presents another challenge for designing effective behavioral programs to reduce gun-related injuries. Young children up through elementary school have difficulty making probability judgments (such as, "How likely is it that I will get hurt?"), and even more difficulty thinking carefully in ambiguous or uncertain situations.[17] They are less able than older children to identify hazardous situations, and when they do, they react slowly and have difficulty thinking of ways to keep themselves safe.[48] Children need to be able to make causal connections to determine if a situation or object is safe or unsafe (such as "fire causes burns"). Although preschool children can sometimes identify safe and unsafe situations, they have difficulty identifying the factors that may prevent an effect from occurring.[51-53]

For all of these reasons, injury prevention is a difficult concept for preschool and elementary school-age children. Safety education programs for young children should therefore include activities that help them develop an ability to understand causal relationships and preventative actions.[52] Though its effectiveness has not been evaluated, a good example of this type of activity can be found at the Web site of the Brady Center to Prevent Gun Violence (http://www.bradycenter.org/clarence/). As part of its STOP 2 program for physician-led counseling, the Brady Center has created an interactive storyboard in which children help "Clarence" make decisions about guns. Through the use of this program, children can make decisions (including poor ones) and observe the consequences.

Older children are more adept at quickly identifying hazardous situations and understanding the concept of prevention. However, older children also are at risk for engaging in dangerous behaviors for a number of reasons. They have decreased perceptions of vulnerability to injury, for example.[48] Even when adolescents clearly recognize certain activities as dangerous (such as drinking and driving), they underestimate the danger to themselves personally and fail to take precautions.[54] Therefore, children who handle a firearm once without incident may perceive the activity as safe and themselves as invulnerable to injury. Older children also are likely to experience peer pressure to act unafraid and to behave recklessly,[17] factors which place them at risk for injury.

Inability to Apply Lessons Learned

A final obstacle to working with children is their inability to hypothesize about situations that they have never experienced or that they have experienced only in an artificial setting.[51] According to researchers at the University of Delaware, "The child who is competent at risk appraisal in a laboratory assessment may not behave competently on the street, on a playground, or in an empty house."[17] Moreover, curiosity is often strong enough to overcome a child's ability to think clearly or to draw on already-acquired coping strategies,[17] even when the child has previously demonstrated safe behavior in similar situations.

Gun Violence Prevention Approaches with Children

Very few programs for children focus exclusively on firearm injury and violence, and only a few general injury and violence prevention programs incorporate lessons on gun safety into their curricula. In a review and evaluation of 84 violence prevention programs, only 5 included a firearm violence or safety component.[55]

Essentially, programs for children take one of two basic approaches: gun safety or gun avoidance. Evaluations of these programs remain very limited, and, unfortunately, no program has yet been proven to consistently succeed in keeping children from accessing and using guns.

Gun Safety Programs

Gun safety programs, typically administered by local firearms dealers and clubs, are designed to teach older children and adolescents how to properly handle a firearm (typically for hunting). Although no study has systematically evaluated such programs for children, gun safety programs have been found to be ineffective in decreasing the firearm injury and death rate among adults[56] and to have had no positive effect on storage practices by gun owners.[57,58] Even worse, some researchers suggest that gun safety courses for children are likely to increase children's interest in obtaining and using guns and that children cannot be expected to consistently use guns safely even with training.[59]

Gun Avoidance Programs

Gun avoidance programs are more common than gun safety programs, particularly for young children. The curricula of gun avoidance programs depend upon the age of the targeted audience. For younger children, the focus is on avoiding accidental injury; for older children and adolescents, the focus is on preventing the intentional carrying and use of guns. See Table 1 for an overview of several gun avoidance programs.

"Just Say No" Programs

Perhaps the most popular "Just Say No" curriculum for gun avoidance is the Eddie Eagle Gun Safety Program for prekindergarten children through sixth graders, developed by the National Rifle Association (NRA). According to the NRA, the Eddie Eagle program has reached 12 million children since 1988 and "isn't [intended] to teach whether guns are good or bad, but rather to promote the protection and safety of children."[60] The NRA compares Eddie Eagle, the program's mascot, to Smokey Bear. The program advocates teaching children, "Stop! Don't touch. Leave the area. Tell an adult." The program does not give children a reason for avoiding guns (such as that guns are dangerous), but program developers do emphasize that children should be taught that real guns are not toys.[61]

The NRA offers no empirical evidence that its approach is effective but relies instead on testimonials, awards, and correlational data to demonstrate efficacy. A fact sheet published by the NRA argues, for example, "In just one year, from 1991 to 1992—while Eddie Eagle reached out to nearly a million youngsters—according to the National Safety Council, the rate of accidental firearm fatalities among children ages 14 and under fell by 13 percent."[60] However, to argue that the Eddie Eagle Program is successful because the number of gun-related injuries among children decreased in one year fails to consider other variables that may be responsible for behavior change over that time period.

Only one study has empirically investigated a "Just Say No" approach to firearm use among children.[62] In that study, half of a sample of 48 preschool children were randomly assigned to participate in a firearm safety program in which they and their parents listened to a community police officer discuss the dangers of guns. After promising never to touch a gun if they saw one, the children were paired with a playmate who had not heard the officer speak and were observed in a setting where they had access to disarmed but real firearms. The children who had heard the officer speak were just as likely as the children in the control group to play with the guns. Furthermore, they were just as likely to play with the guns after the intervention as before.

"Just Say No" approaches have been found to be ineffective in other areas as well. For example, a program to

Table 1

Educational Interventions to Reduce Youth Gun Injury and Violence

Program	Developer and/or Publisher	Type of Program	Target Age or Grade	Description of Program	Evaluation
Eddie Eagle Gun Safety Program[a]	National Rifle Association (NRA)	"Just Say No"	Pre-K–grade 6	Motivational "big book" for children in Pre-K–grade 1, with easy-to-understand rhyme; activity books for grades 2–3 and 4–6; 7-minute video, reward stickers, parent letter, instructor guides, in-service video. The message: If you see a gun, stop! Don't touch. Leave the area. Tell an adult.	NRA cites testimonials and reductions in accidental death rates between 1991 and 1992 as evidence of effectiveness.
Straight Talk about Risks (STAR)[b]	Brady Center to Prevent Gun Violence[c]	Skills-based	Pre-K–grade 12	Between 11–14 lessons for four different grade-level groupings; unique focus on handgun violence; teacher training. Grounded in prevention research.	Inconsistent and inconclusive effects on attitudes and no change in behaviors. No evaluation has been published.
Safe Alternatives and Violence Education (SAVE)[d]	San Jose Police Department, San Jose, CA	Skills-based	Juvenile offenders ages 10–18	One-day, six-hour violence awareness class for juvenile offenders and their parents.	Pretest-posttest evaluation found reductions in recidivism, even at two-year follow-up, but no control group was used.
Options, Choices, and Consequences (Cops and Docs)[a]	Roy Farrell, M.D., Washington Physicians for Social Responsibility	Shock	Grades 7–8	Two-day, two-hour program presented by physician, police officer, and prosecutor; focus on medical and legal consequences of gun violence.	Unpublished evaluation demonstrated significant impact on knowledge, but limited impact on attitudes and behaviors.
Hands without Guns[a]	Joshua Horwitz, Educational Fund to End Handgun Violence	Peer-based	Junior high and high school	Public health and education campaign providing a "forum for positive youth voices."	Unpublished survey of more than 400 students found that 38% could identify the program; of those, 1.3% carried a gun. Of students who could not identify the program, 10.3% carried a gun.[e]
Steps to Prevent Firearm Injury (STOP 2)[f]	Brady Center to Prevent Gun Violence	Physician-directed parent education	Parents	Preparation for pediatric health professionals to talk with parents about the risks of having a gun in the home as part of routine injury prevention counseling.	Evaluation has found that participation in STOP 2 did not result in a statistically significant decline in gun ownership or an improvement in gun-storage practices.

[a] LeBrun, E., Naue, G., Naureckas, S., and Witwer, M. *School-based curricula to prevent gun violence: A review and call for evaluation of programs.* Chicago: Handgun Epidemic Lowering Plan (HELP) Network, 1999.

[b] National Center for Injury Prevention and Control. *The prevention of youth violence: A framework for community action.* Atlanta, GA: NCIPC, 1993.

[c] As of Spring 2002, the Brady Center is no longer promoting this program because of difficulties in assessing the program's effectiveness, and because the Center believes it should be the parent's responsibility, not the child's, to keep children safe from guns (Alicia Horton, Education Director, Brady Center to Prevent Gun Violence, personal communication, April 12, 2002).

[d] Arrendondo, S., Aultman-Bettride, T., Johnson, T.P., et al. *Preventing youth handgun violence: A national study with trends and patterns for the state of Colorado.* Boulder, CO: Center for the Study and Prevention of Violence, 1999.

[e] Office of Justice Programs, Office of Juvenile Justice and Delinquency Programs. *Youth in Action,* no. 3. Washington, DC: OJJDP, July 1999.

[f] Oatis, P.J., Fenn Buderer, N.M., Cummings, P., and Fleitz, R. Pediatric practice based evaluation of the Steps to Prevent Firearm Injury program. *Injury Prevention* (1999) 5(1):48–52.

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decrease drug use among youth, Drug Abuse Resistance Education (DARE), is similar in many respects to the Eddie Eagle program: Youth are taught in school settings, often by community police officers, to "Just Say No" to drugs. Although some studies have noted initial improvements in attitude toward drugs following participation in the DARE program, these attitude changes were not long-lasting, and studies have found no effect from the program on actual drug use, either in the short or the long term.[63]

It is not clear why "Just Say No" approaches are ineffective. One possibility is that children have difficulty resisting temptation, and temptation increases as objects are forbidden. In one study, fourth graders perceived a particular toy as being more attractive after they were told that they could not play with it.[64] Among older children, using firearms may be perceived as a forbidden adult privilege (akin to drinking alcohol, driving a car, and having sex), thus making gun use more enticing.[65] Because older youth also explore and test limits placed on them by adults, telling these children to "Just Say No," without discussing why they should say no, may actually result in an increase in the forbidden behavior. Within the drug-resistance literature, researchers have found that programs focusing on why kids should say no to drugs are more effective than those that just say how to say no, and that some "Just Say No" programs may even have the unintended effect of increasing drug use.[66,67]

"Just Say No" programs also may be ineffective because they lead youth to believe that carrying and using guns is normative behavior among their peers. Norms set the standard for behavior, and people act in accordance with perceived norms so as to fit in or belong to a group.[68] Researchers have shown that adolescents tend to overestimate the extent to which their peers engage in risky or illicit behaviors,[54] which may influence their willingness to engage in those same behaviors. Moreover, when told not to do something, adolescents may believe that the forbidden behavior is more common than it really is, which can increase their personal involvement in that behavior.[69,70]

To counteract this tendency, experts recommend that health education programs minimize the prevalence of problem behaviors rather than promote the misperception that the behaviors are common.[66] Perhaps, then, programs emphasizing that few adolescents carry guns would be more effective than programs suggesting that gun carrying is the norm.

Finally, "Just Say No" programs may not be comprehensive enough to help children develop and retain the skills needed to stay safe around guns. The injury prevention literature suggests that the following components make for a successful injury prevention program: (1) use of rewards and incentives, (2) rehearsal of skills learned, (3) demonstration and imitation of appropriate behaviors, (4) step-by-step verbalizations of appropriate behaviors, and (5) immediate feedback from the instructor.[71] Furthermore, effective violence prevention programs include activities to help youth develop anger management skills, empathy and perspective taking, social problem skills, negotiation skills, media resistance, resistance to provocation, communication skills, and relationship-building skills.[55]

Skills-Building Approaches

In response to the ineffectiveness of the "Just Say No" approach to preventing firearm violence, researchers have developed curricula that help children build the skills they need to resist peer pressure, make good choices, and resolve conflict. One of the most commonly used of these programs, Straight Talk about Risks (STAR), was developed by the Brady Center to Prevent Gun Violence for children in preschool through the 12th grade. Drug Strategies, a research institute in Washington, D.C., describes the program as well-organized and well-grounded in prevention research.[55] Most STAR lessons require several sessions to complete. Some of the lessons for younger children include "Making Safe and Smart Decisions," "Having and Obeying Rules," and "Solving Problems without Fighting." Lessons for older children emphasize understanding emotions that might lead to conflict, messages in the media and peer pressure, and the ramifications of gun violence for victims and their families. Across all ages, the lessons are taught through role-play, art projects, group activities and discussions, repetition, and multimedia presentations.

Nevertheless, the evaluation of STAR has yielded inconsistent and inconclusive results, and the program has not been shown to modify the actual behavior of

> **"Just Say No" programs may not be comprehensive enough to help children develop and retain the skills needed to stay safe around guns.**

children.[72] One study evaluated the use of a firearm safety training program that incorporated many of the same lessons as STAR over a one-week period. The program was ineffective in deterring children's play with guns, despite an increase in children's knowledge about the dangers of guns.[47]

Another skills-based program, Safe Alternatives and Violence Education (SAVE), was developed by the San Jose Police Department in California to reduce violent youth activities and weapons possession, to teach youth how to manage anger and conflict situations, and to increase youth and parent interaction among juvenile offenders ages 10 to 18. In an evaluation of this program, 78% of the 1,231 juvenile offenders who participated were violation-free two years after the program ended. However, the results should be interpreted with caution as no comparison group was used.[73]

Shock Programs

Another approach to reducing firearm violence, particularly among older children and adolescents, incorporates a focus on the consequences of gun violence. Typically, these programs use graphic depictions of gunshot victims with the intent of "shocking" youth into resisting future gun use.

Despite their appeal, scare tactics are unlikely to be effective. An unpublished evaluation of Cops and Docs, one program using such tactics, revealed a significant impact on student knowledge but no significant change in attitudes and behaviors.[72] Because adolescents are often susceptible to the belief that they are invulnerable to harmful outcomes,[74] gruesome images and messages of "this could happen to you" are unlikely to affect them. These programs may even be potentially harmful because susceptible youth who witness violence have been observed to become more violent as a result.[55] Borrowing from related literature, researchers have found that scare tactics make risky sexual practices more appealing to adolescents described as "sensation-seekers,"[75] increase stress and alcohol consumption in sexually active teens,[76] and are ineffective in deterring adolescents from using marijuana.[77]

Peer-Based Programs

A final approach to teaching children, particularly older youth, about firearm violence is the use of peers as educators. Most peer-based programs focus on providing or suggesting alternative activities to gun violence and reducing rates of adolescent gun carrying. Such programs are based on the premise that only peers can convince youth to "put down their weapons." However, most of these programs fail to provide adequate alternatives for solving conflict, and do not confront the other reasons youth have for using or carrying guns, such as attaining status, getting attention, retaliation, or fear for personal safety.[73]

Hands without Guns, developed by the Educational Fund to Stop Gun Violence in Washington, D.C., is perhaps the best-known peer-based program to reduce youth gun violence. Targeting junior high and high school students, Hands without Guns is both a public health and an educational campaign, using theater groups, art centers, video clubs, and other after-school projects to change youth attitudes about gun possession. The program includes an evaluation component: a survey to assess changes in attitude and self-reported behaviors among the youth who participate. The unpublished results of this survey of more than 400 students found that of the 38% of youth who could identify the program, only 1.3% carried a gun. Of the 62% who could not identify the program, 10.3% carried a gun.[78] These results should be interpreted with caution, however, because other more relevant variables may be correlated with being able to identify the program. For example, youth who are frequently truant from school and who may not therefore be able to identify a program presented during the school day may be more likely to carry guns. Moreover, self-reporting may overestimate the success of a program, particularly when individuals are asked to reveal illegal behavior.

Furthermore, similar peer-based programs designed to address other concerns of adolescence have not met with great success. For example, according to an evaluation of Students Against Drunk Driving (SADD), a nationally known peer-based program to reduce the rates of drunken driving among adolescents, students at schools with SADD chapters and those at schools without SADD chapters reported similar rates of driving while intoxicated or of riding with a drunken peer.[79] Evidence regarding the effectiveness of peers in influencing youth to adopt healthy behaviors is limited, however; more research is needed.[80]

Conclusion

It is difficult to conclude this review without a certain degree of pessimism. The few behaviorally oriented programs to reduce youth gun injury and violence that have been evaluated have not shown great success. In fact, some critics argue that these programs may actually do more harm than good—by giving kids the impression that gun carrying is the norm, for example, or by increasing children's interest in using guns.

Given the limited potential of the programs discussed in this article, what advice can be given regarding the features of a behavioral program that is most likely to succeed? First, community-based approaches require an initial assessment of the needs of the community. Residents should be involved in planning and implementing the program, and a means of evaluating the program must be developed.

Second, programs directed toward parents should address the multiple false beliefs that can make parents resistant to behavior change. Parents must come to understand that their children are at risk for injury if a loaded gun is kept in the home, for example, regardless of any training their children may receive.

Third, physicians should be better trained to discuss the issue of firearms with their patient families. More effective counseling might include an emphasis on the risk of having a gun in the home, an attempt to assess and allay the fears that prompt parents to keep a gun, and alternative positions for the short term (such as encouraging gun-owning families to purchase safety devices rather than advising them to remove guns from their homes).[81] Also, because fathers (often the gun owners in families) typically do not bring their children to the physician, and because mothers may not be aware of unsafe gun-storage practices in their own homes, physicians may need to customize their message about gun safety to the parent who appears in their office.[82]

Finally, before even attempting to develop programs for children, researchers, policymakers, and practitioners should question whether children are the appropriate targets for intervention. Believing that children can learn to make life-or-death decisions regarding their safety around firearms may provide parents with a false sense of security and lower their vigilance.[22] Young children, particularly boys, have difficulty identifying hazardous situations, taking preventative measures, and believing that they can be injured by a gun. Moreover, children trained to behave safely in a classroom setting may not generalize to a potentially fatal situation in their own home or in the home of a friend.

Older children, feeling invulnerable to injury and sensitive to peer pressure, may fail to heed safety messages they have learned. "Just Say No" programs may entice children to use guns, and skills-based programs may fail to adequately address the reasons that youth carry guns. Scare tactics and programs that lead adolescents to believe that carrying guns is the norm are especially problematic, have not demonstrated effectiveness, and—based on what researchers have learned about similar approaches to adolescent health issues—may even increase the very behavior they are designed to reduce. Peer-based approaches have shown mixed results thus far, and have not been adequately evaluated.

The AAP is especially doubtful of the educational approach to reducing firearm mortality and morbidity. In a policy statement released in April 2000, the AAP reaffirmed its stance that the most reliable and effective way to prevent firearm-related injuries in children and adolescents is to remove guns from children's homes and communities.[83] It is difficult, in the face of the meager success of the behavior-oriented approaches reviewed here, to disagree.

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APPENDIX

Child Access Prevention Laws by State

State	Year Enacted	Description of the Law
Florida	1989	▶ It is illegal to store or leave a loaded firearm within reach or easy access of a minor who then gains access to the firearm. ▶ Dealers must provide purchasers with written warning about the law and must post a warning sign at the counter. ▶ The law does not apply if the minor obtains access unlawfully. ▶ Violation of the law is a misdemeanor unless the minor injures self or others, in which case it is a felony. ▶ A minor is defined as anyone under age 16.
Connecticut	1990	All of Florida's provisions apply, plus: ▶ Gun dealers must offer trigger locks for sale at the time of gun purchase. ▶ The State Board of Education must develop firearms safety curriculum for children grades K–8. ▶ Violation is a felony.
Iowa	1990	All of Florida's provisions apply, except: ▶ Gun dealers are not required to post warnings. ▶ Violation is a misdemeanor. ▶ A minor is anyone under age 14.
California	1991	All of Florida's provisions apply, except: ▶ Gun dealers are not required to provide written warning about the law or to post warning signs.
Nevada	1991	All of Florida's provisions apply, except: ▶ Gun dealers are not required to provide written warning about the law or to post warning signs. ▶ A minor is anyone under age 14.
New Jersey	1991	All of Florida's provisions apply, except: ▶ Gun dealers are not required to provide written warning about the law or to post warning signs.
Virginia	1991	▶ It is unlawful to "recklessly leave a loaded firearm so as to endanger the life or limb of any child under the age of 14." (Note: The "reckless" standard makes prosecution difficult.) ▶ Gun dealers are not required to provide written warning about the law or to post warning signs. ▶ Violation is a misdemeanor.
Wisconsin	1991	▶ Florida's general provisions apply, but with the "reckless" standard set forth by Virginia's law. ▶ If a child obtains a gun through negligent storage and exhibits it in public, the violation is a misdemeanor. If an injury occurs, the violation is a felony. ▶ A minor is anyone under age 14.

State	Year Enacted	Description of the Law
Hawaii	1992	▷ This is the broadest law in the nation, applying to all stored guns, whether loaded or unloaded. ▷ No incident must occur to incur criminal penalties. ▷ Violation is a misdemeanor. ▷ A minor is anyone under age 16.
Maryland	1992	All of Florida's provisions apply, except: ▷ No exceptions apply to persons who negligently store a firearm (for example, if the weapon is negligently stored, the owner is liable even if a minor obtains the weapon unlawfully). ▷ The penalty is a $1,000 fine.
Minnesota	1993	All of Florida's provisions apply, except: ▷ Violation is a misdemeanor. ▷ A child is anyone under age 14.
North Carolina	1993	▷ The law was amended in 1994 to change the penalty for transfer of a handgun to a minor from a misdemeanor to a felony. ▷ A minor is anyone under age 18.
Delaware	1994	▷ It is illegal to permit a minor access to a loaded firearm when access is intentional or reckless and when the minor accesses the firearm and uses it to inflict serious bodily injury or death upon self or others. ▷ Violation is a misdemeanor. ▷ A minor is anyone under age 18.
Rhode Island	1995	▷ It is illegal to store a loaded firearm when reasonable knowledge exists that a child is likely to gain access and when the child causes death or great bodily harm. ▷ Violation is a misdemeanor. ▷ A child is anyone under age 16.
Texas	1995	▷ The law is similar to the Rhode Island law and also requires gun dealers to post warning signs about the law. ▷ Violation is a misdemeanor. ▷ A child is anyone under age 18.
Massachusetts	1998	▷ It is unlawful to store any firearm (including a rifle or shotgun) that is not rendered inoperable by use of a locked container with a tamper-resistant mechanical lock or other safety device. ▷ Dealers must post signs and provide written warning upon sale or transfer. ▷ Violation is a misdemeanor for most firearms, but can be a felony in the case of a large-capacity weapon or machine gun.
Illinois	1999	▷ It is illegal to store or leave a loaded firearm where a minor can gain access without permission and use it to injure or kill. ▷ Proper storage is defined as secured by a trigger lock, placed in a securely locked box, or placed in a location that a "reasonable" person would believe to be secured from a minor. ▷ Violation is a misdemeanor. ▷ A child is anyone under age 14.

Source: The Brady Campaign to Prevent Gun Violence. Available online at http://www.bradycampaign.org/facts/gunlaws/cap.asp.

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Product-Oriented Approaches to Reducing Youth Gun Violence

Stephen P. Teret and Patti L. Culross

SUMMARY

Injury prevention experts have suggested that gun manufacturers could reduce youth violence by changing the design of guns. Product safety features could make guns more difficult for children to fire unintentionally and more difficult to use if stolen or obtained illegally.

This article gives a brief history of efforts to make safer, smarter guns and assesses the potential of the product safety approach for reducing youth gun violence. Among the article's key findings:

- Research from the injury prevention field suggests that changing product design may be more effective in preventing injuries than trying to change personal behaviors;
- Existing product safety technologies for guns could reduce unintentional gun injuries, especially to young children. In addition, emerging technologies will enable gun manufacturers to "personalize" guns, which could prevent unauthorized users of any age from firing the weapons. Personalization could decrease access to guns by adolescents;
- Gun manufacturers have been slow to incorporate safety features into their products; but legislative, regulatory, and litigation efforts are under way to mandate safer guns.

The authors envision a future when the law requires product safety features—including personalization—on all new firearms. These product safety features have the potential to reduce both intentional and unintentional firearm injury and death.

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Injury prevention experts often suggest two key strategies for reducing youth firearm injury and death. One option is to focus on behavior modification, changing how young people and their families behave regarding guns. Another is to focus on product modification, changing the design of guns so that they are more difficult to fire unintentionally or more difficult to use if stolen or obtained illegally. These two strategies do not present an either/or choice; one does not preclude the other. However, one approach may hold out greater likelihood for success than the other. Although little research directly compares the effectiveness of reducing gun violence by changes in product design as opposed to changes in behavior, behavioral interventions have shown only limited promise for reducing youth gun violence. (See the article by Hardy in this journal issue.)

Unfortunately, studies that measure the effects of changing the design of guns to reduce injuries to children and youth are lacking. Few such changes have been made, and because no national data collection system on gun-related injuries exists, studying the effects of those changes that have been made is difficult.

Nonetheless, research from the injury prevention field indicates that changing products to make them safer is frequently more effective at reducing injury and death than trying to change personal behaviors. Relatively inexpensive product modifications could make guns more difficult for children to fire and could reduce unintentional firearm injuries caused when children do not realize that a gun is loaded. More sophisticated devices that allow only the rightful owners of guns to fire them could prove even more useful in reducing youth firearm injury and death, because they could keep youth from being able to intentionally fire guns obtained wrongfully from family, friends, illegal gun markets, or through theft.

This article reviews historical and current efforts to design safer handguns and to prevent their unauthorized use by children and youth. It begins with case studies from the injury prevention field which suggest that product modification is more effective than behavior modification in reducing injuries. The article then describes efforts by gun manufacturers to build in safety features during production, as well as emerging technologies to produce "smart" guns that could be fired only by authorized users. Finally, legislative, regulatory, and litigation efforts currently under way to require safer guns are discussed.

Rationale behind the Product Safety Approach

Gun violence prevention can be considered a subset of injury prevention, a discipline that for several decades has studied the most effective methods for reducing the incidence of injuries. A basic tenet of injury prevention, supported by these studies, is that attempts to modify the behaviors of individuals so that they act more safely have not in themselves proven adequate to address most injury problems. Changing the design of products has been more effective in reducing risks of injury. Two examples of the differences in effects between product modification and behavior modification are childhood poisoning prevention and motor vehicle safety.

Childhood Poisoning Prevention

Childhood poisoning by medications such as aspirin has long been recognized as a serious injury problem. One way to address the problem is to teach parents and caregivers that medications should be stored in a manner that is inaccessible by young children. The youngsters themselves also could be taught that certain products are poisonous and must be avoided. This was the point of the "Mr. Yuk" campaign, in which a logo was designed with the hope that young children would recognize it and, through training, learn not to touch products bearing it. When this approach to protecting young children by modifying their behavior was tested, however, it proved flawed. In one study, young children who had been instructed not to play with items bearing the colorful Mr. Yuk label preferentially played with those items, compared to children in a control group who had not received the educational intervention.[1]

In contrast, research has shown that changing the design and packaging of medications can effectively prevent childhood injury. The use of child-resistant caps for medications and poisons, along with limits on the number of pills in a single vial for many over-the-counter medications, saved the lives of an estimated 460 children under age five between 1974 and 1992.[2]

Programs designed to teach adults to alter their behaviors for the protection of their children, such as by locking

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away poisons[3] or even guns,[4,5] have also shown less than satisfying results. (See the article by Hardy.) Sometimes, even when adults do change their behaviors to protect their children, it is not enough to prevent tragedy. For example, one of the recent school shootings demonstrated the limitations of adult behavior-oriented safety interventions. In March 2001, a 15-year-old student at Santana High School in Santee, California, used a handgun to shoot and kill 2 of his classmates and wound 13 more. The boy's father reported that the handgun came from his own locked gun cabinet.[6] Apparently, his son could still gain access to the firearms.

Motor Vehicle Safety

The field of motor vehicle safety provides other examples of the relative benefits conferred by modifying a product rather than promoting behavioral change. In the mid-1960s, the U.S. public and Congress realized that continued efforts to enhance the skills of drivers were inadequate for reducing the toll of highway fatalities. Attention was therefore turned to the vehicle, with the assumption that crashes would still occur and that modifying the design of the car could alter human consequences of these crashes. The forces of legislation, regulation, and litigation were thus used to mandate collapsible steering columns, seatbelts, energy-absorbing vehicle frames, and other physical modifications to cars. These changes have been credited with saving hundreds of thousands of lives.[7] Although efforts to enhance the safety skills of drivers were not (and should not be) abandoned, product modification proved effective in reducing highway fatalities.

Lessons Learned

As the childhood poisoning prevention and motor vehicle safety cases illustrate, behavioral interventions alone are not enough to reduce injuries and death; product safety modifications also play a key role. Unfortunately, this lesson has yet to penetrate many gun violence prevention efforts. For example, some advocates for gun safety have recently argued that a "code of responsibility" for gun owners is needed, whereby owners would voluntarily pledge to keep their guns stored safely.[8] The plan for achieving this change in adult behavior is through a public education program similar to one in which vehicle occupants were implored to "buckle up" decades ago in the field of motor vehicle safety. Education campaigns like these have fallen far short of their mark, leaving occupants unprotected and subject to severe injuries or deaths in crashes. Not until legislation in the United States mandated seatbelt use did the rate of use increase materially and the death rate fall.

Gun Manufacturers' Efforts to Make Safer Handguns

The technology already exists to make safer guns. Grip safeties, loaded chamber indicators, and magazine disconnect devices all show promise for reducing unintentional injuries, especially among children and youth. Emerging technologies to create "personalized" guns, which would make guns operable only by authorized users, may be able to reduce intentional injuries as well. Table 1 lists several safety-related product modifications currently being used or developed for guns.

The value of changing product design to avoid injuries to consumers is not wholly unknown to gun manufacturers. Clearly, guns are made principally to have the capacity to injure, but from the manufacturer's perspective the gun owner and the owner's family members are not the planned, intended victims of these injuries. From the point of view of the gun maker, the gun should not injure the owner/user or that person's children through inadvertent firing or through firing by unauthorized users. As the story of Smith & Wesson's "childproof" gun illustrates, gun manufacturers over the past 100 years have paid some attention to protecting the gun owner and user from unintended injury—but clearly not enough.

Smith & Wesson's "Childproof" Gun

One of the oldest gun safety devices is the grip safety, which has existed for more than 100 years. The gun manufacturer Smith & Wesson intended the grip safety to serve as a child safety device. Although the device is no longer used on Smith & Wesson guns, the development of the grip safety makes it clear that the company recognized and was concerned from early in its history about the danger handguns present to young children.

In his book entitled *History of Smith & Wesson*,[9] Roy G. Jinks, the company's official historian, tells the following story:

> Legend has it that D.B. Wesson (one of the founders of the gun manufacturing corporation) developed the Safety Hammerless model in a night-long session after hearing that a child

Table 1

Gun Product Safety Features and Their Potential to Reduce Youth Firearm Injuries

Product Safety Feature	Does the Technology Exist?	Potential for Reducing Unintentional Injury			Potential for Reducing Intentional Injury		
		Child	Adolescent	Adult	Child	Adolescent	Adult
Grip safety	Yes	▲	▲	▲	▲		
Loaded chamber indicator	Yes		▲	▲			
Magazine disconnect device	Yes	▲	▲	▲			
Personalization	Prototypes only	▲	▲	▲	▲	▲	▲

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> had accidentally been hurt by cocking and pulling the trigger on one of the Smith & Wesson Double Action Revolvers. This legend cannot be substantiated, since factory records show a methodical development of the revolver. D.B. Wesson was a sensitive person and perhaps after hearing of this accident was inspired to work very closely with his son Joe to develop a revolver with a safety on the handle and a strong trigger that would require a long pull, making it impractical for a child to pull through and fire.

By 1886, Smith & Wesson's .38-caliber Safety Hammerless was in production, and the .32-caliber model followed in 1888. These handguns were designed with a squeezable grip safety. On the rearmost portion of the gun (the part of the handle that rests below the user's thumb as the gun is gripped) was a metal lever that the shooter had to depress by squeezing the gun for the trigger to operate. Thus the user had to perform two tasks simultaneously with one hand for the gun to fire: depress the lever with the base of the thumb and pull the trigger with the forefinger. The premise of the technology was that young children lacked the hand size and strength to successfully do both at the same time.

According to Jinks, Smith & Wesson manufactured more than 500,000 guns with grip safeties between 1886 and 1940. These guns were known as the company's "New Departure" models. No epidemiologic or biomechanical data exist on the effectiveness of the New Departure grip safety in preventing young children from operating a handgun, but Smith & Wesson felt strongly about its effectiveness. The catalog description of the New Departure for many years included the following claim: "One very important feature of this arrangement is the safety of the arm in the hands of children, ***as no ordinary child under eight years of age can possibly discharge it.***"[10] (emphasis added)

When Smith & Wesson encountered financial trouble in the late 1930s, the company moved away from making guns for the consumer market, focusing instead on providing British soldiers with guns for World War II. The grip safety was not used on those guns. Today, however, Smith & Wesson has returned to the business of supplying handguns to the American public. For example, the company has manufactured the LadySmith®, a small handgun marketed to women. Notwithstanding the likelihood that a woman's gun might be in the same environment as a young child, Smith & Wesson no longer makes use of the child safety technology it developed more than 100 years ago. The LadySmith® has no grip safety or other device to make it inoperable by a young child.

Even so, the grip safety does maintain a presence today. Many handguns produced by manufacturers other than Smith & Wesson are outfitted with a modern-day version of the device—a lever on the back or the front of the grip that must be depressed for the trigger to be engaged. These grip safeties are neither advertised nor utilized for the purpose of child protection, however. Their function is to ensure that the user has better hand positioning and control of the firearm, and their effectiveness as a child-resistant safety device remains untested.

In recent times, Smith & Wesson has pledged to take new measures to prevent young children and other unauthorized users from firing the guns that they manufacture. At least in part, the company's desire to settle lawsuits brought against it has stimulated this pledge. In March 2000, Smith & Wesson reached an agreement that freed the company from ongoing legal action brought against several gun manufacturers by the U.S. Department of Housing and Urban Development and several counties and cities throughout the country. In this agreement, Smith & Wesson consented to design changes that incorporate certain built-in safety features, including electronic locking devices. The company also agreed to monitor the distribution of its guns more closely so that scofflaw gun dealers would be identified and would not receive any Smith & Wesson products.

No other gun manufacturer signed this agreement, leaving Smith & Wesson to bear the brunt of what became a devastating economic backlash. Gun dealers and gun buyers boycotted Smith & Wesson guns, bringing the company to the brink of bankruptcy. Smith & Wesson was put up for sale and purchased by an Arizona company, Saf-T-Hammer, which makes trigger locks and other safety devices designed to prevent unauthorized access to firearms. Saf-T-Hammer intends to use its newly acquired Smith & Wesson division in the development of technologically advanced firearm security systems.[11] A partnership between Smith & Wesson and the New Jer-

Some technology to produce smart guns already exists; other technology seems feasible in the near future.

sey Institute of Technology, for example, will test the feasibility of the biometric identification systems for personalizing guns mentioned later in this article.[12]

Safety Devices Currently in Use

In comparison to many other products, guns have changed relatively little in their design over the past century. Major design changes have included a move from revolvers to pistols, an increase in caliber, and an increase in ammunition capacity.[13] (See the article by Wintemute in this journal issue.) Most of these changes have resulted in the increased lethality of guns. With more bullets able to be discharged in a given period of time, and with higher-caliber bullets transferring greater amounts of kinetic energy to what they strike, the amount of human damage resulting from a shooting has increased. Studies of shooting victims seen in emergency departments, for example, demonstrate that the number of bullet wounds per person is increasing.[14]

Devices can be placed on guns to decrease the chances of unintended firings, however, thereby making the gun a safer consumer product. Although patents for these devices were granted in the early twentieth century, the devices are found on only a small percentage of guns in the marketplace today.[15] Two of these devices are loaded chamber indicators and magazine disconnect safeties.

Loaded Chamber Indicators

Much like a camera informs its user that there is film in the camera, a gun can inform the user that there is a bullet in the gun. Principally for use in pistols (as opposed to in revolvers), a loaded chamber indicator alerts the possessor of the gun that the gun is loaded and can be discharged. The device is most often a small, cylindrical piece of metal that protrudes from the body of the gun if a round is in the chamber.

It is not intuitive to the person holding a gun, however, that the protrusion of the loaded chamber indicator indicates the loaded status of the gun. Nor is the position, size, coloring, or any other aspect of the loaded chamber indicator standard across makes and models of pistols.

The low prevalence of loaded chamber indicators on pistols, their lack of imparting a clear message to the person holding the gun, and their lack of uniformity all likely contribute to deaths that occur when the person later claims, "I didn't know the gun was loaded."[15] More meaningful loaded chamber indicators could be designed and their inclusion on guns mandated through regulation.

Magazine Disconnect Devices

Another safety device that could reduce the likelihood of unintentional firearm deaths, the magazine disconnect device, is also used in pistols. These guns contain their ammunition in a magazine, or a clip, that fits into the pistol's handle. Even if the magazine or clip containing the ammunition is removed from the gun, however, the pistol may still have a "round in the chamber," or a bullet that remains in the gun ready to be fired. This danger is not well understood by the public. In a poll conducted for The Johns Hopkins Center for Gun Policy and Research, a representative sample of the U.S. population was asked if a pistol could be fired when the magazine was removed; 35% either didn't know that the gun could be fired or thought that it could not be fired.[15] A magazine disconnect device physically prevents a gun from being discharged if the magazine has been taken out, even if the chamber still has a round in it.

Because the round in the chamber was recognized early on as an inherent safety problem, this device has existed on a small number of guns for many years. In 1911, a patent was issued for a magazine disconnect device.[16] More recently, a patent application by an inventor named Frank S. Thomas stated,

> It is well known to those familiar with conventional semi-automatic firearms that a live round left in the chamber after the magazine has been removed from its receiver poses a great danger to those who may handle or be exposed to the seemingly unloaded weapon. In the hands of the young, the inexperienced, the careless, a pull of the trigger may fire the "unhappy bullet" in whatever direction the weapon happens to be pointing.[17]

Notwithstanding the recognized need for this safety device and its clear technological feasibility, magazine disconnect devices are present on only about 14% of pistol models.[15]

The Promise of Personalized Guns

Some researchers believe that the most important change that could be made in the design of handguns to reduce the incidence of gun-related injuries, especially to children, would be to personalize guns.[18] A "smart" gun would rely upon a personal identification number (PIN), a magnetic ring worn by the user, a radio-frequency device on the user's clothing or person, or fingerprint recognition technology to ensure that only an authorized user could actually fire the gun. Some technology to produce smart guns already exists; other technology seems feasible in the near future.

Theoretically, handgun personalization would prevent unauthorized persons of any age—not just young children—from operating a firearm. Until these types of guns are widely available for use, however, their effectiveness remains unmeasured. It is not known how many firearm injuries personalization of guns may prevent. However, personalization technology could prevent the use of stolen handguns, thus shrinking the illegal gun market, and it could decrease access to firearms by adolescents and protect young children.

An Emerging Technology

In 1992, faculty at The Johns Hopkins School of Public Health commissioned three undergraduate engineering students to devise a personalized gun. With an investment of $2,000, and use of existing technology, the students converted a revolver so that only its authorized user could operate it. The gun's firing mechanism was blocked unless it was touched by an electronic "touch-memory" device. Only the handgun's authorized user had possession of the device.

Today, the technology to make personalized guns is far more sophisticated. In the near future, personalized guns that identify the authorized user by a PIN programmed into a gun may be available for sale. This development would make possible an early version of a personalized gun. Another future version of a personalized gun could employ biometrics, such as fingerprint recognition, for identification of the authorized user.[19] Computer chips already on the market for use in other products immediately scan fingerprints. Soon these chips will be made durable enough to withstand the trauma of gunfire and will be incorporated into guns. A personalized holster already on the market keeps a gun locked in its holster unless a device reads the fingerprint of an authorized user.[20]

Potential Advantages and Drawbacks of Personalized Guns

Personalization has the potential to make guns less accessible to young people and therefore holds promise for reducing firearm injury and death. Personalized guns are not a panacea, however. The increased cost of the guns, the immense stock of nonpersonalized guns in this country, and the potential for an increase in gun sales once personalized guns enter the market make uncertain the precise impact of smart guns on the safety of children and youth.

Personalized firearms would cost more than firearms sold today, although how much more is unknown. A national poll on gun ownership and safety found that 80% of people who would buy a personalized gun would buy one even if the personalization device added $100 to $300 to the price.[21] Even so, it is unlikely that all, or even a significant proportion, of the nearly 200 million existing firearms in the United States would be retrofitted for personalization. The majority of these older weapons would remain available for use and purchase. Also unknown is how many people who do not currently own firearms would purchase personalized guns because they would seem safer than other guns. Would the rate of concealed-weapon carrying increase? How many mothers would buy a handgun for self-protection if the handgun were "childproof"?

Although firearms would remain hazardous for children even with personalization, safer gun design could contribute to the broader strategy to prevent firearm injuries among children and adolescents. At the very least, young children could be protected from adult inattention to safe firearm storage. In a more complex set of circumstances, adolescents would have decreased access to operable firearms.

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Adolescents, proscribed by law from owning firearms, nevertheless have four types of access to guns: (1) unauthorized access to firearms in homes; (2) authorized access to firearms transferred from family, friends, and acquaintances; (3) illegal purchase of firearms off the street or through retailers, either directly or through an intermediary; and (4) theft. The hope for personalization technology is that the firearm operating system would be individualized to the gun owner so that the illegal transfer of weapons, the utilization of stolen weapons, and other unauthorized weapon use could not occur or would occur only with great effort. Personalization could decrease the pool of readily usable firearms.

Thus, for an adolescent, operating a firearm and obtaining an operable firearm would be more difficult and complicated. For adolescents, who frequently behave impulsively (see the article by Hardy), the time it would take to find a usable firearm or to make a firearm usable might result in a change of mind and a loss of interest. Personalization could thereby work to prevent many homicides, suicides, and unintentional injuries among children and adolescents.

Legislation and Litigation Efforts to Require Safer Guns

Even before personalized guns became a plausible option, legislators at the local, state, and federal levels were exploring ways to make handguns safer, especially for children and youth. Efforts to establish federal product safety regulations for guns have not been successful to date, but model legislation has been written that would allow a city, state, or the federal government to require all newly manufactured handguns to be personalized after a given date.[22] Bills that follow this model law have been introduced in several states and cities[23] and in Congress.[24] In addition, state and local governments have brought litigation that may force gun manufacturers to add safety devices to their products.

Attempts to Regulate Safer Guns: The Consumer Product Safety Commission

Despite legislative efforts that date back almost 40 years, the federal Consumer Product Safety Commission (CPSC) does not regulate handguns as it does other consumer products. In the 1960s, the federal government established the National Commission on Product Safety to study the incidence of injury from consumer products and to recommend methods of protecting the public from these injuries. That commission led directly to Congress's creation in 1972 of the CPSC, the agency designed to protect the public from the hazards of dangerous products. Guns, however, were excluded from the range of products that the CPSC could regulate.[25] A proposed amendment to the bill that created the CPSC, which would have included firearms within the bill's coverage, was defeated following argument that giving the CPSC jurisdiction over guns "could result in taking guns away from our sportsmen and law abiding citizens. If the Consumer Commission saw fit it could impair the personal security of all of our citizens by limiting the right they now enjoy to possess firearms to make them secure in their homes."[26]

In 1974, the Committee for Hand Gun Control, Inc. petitioned the CPSC to ban the sale, distribution, and manufacture of handgun ammunition under the Federal Hazardous Substances Act,[27] which is administered by the CPSC. The CPSC found that ammunition fell within the definition of hazardous substances under the law, but nevertheless denied the petition based on the commissioners' assertion that a ban on ammunition would effectively be a ban on handguns, and therefore was outside the scope of CPSC's authority. The petitioner appealed the decision, and the court, finding that the CPSC had jurisdiction over ammunition, ordered the CPSC to consider the petition on its merits.[28]

In response, Congress in 1976 enacted the Consumer Product Safety Act, which contained the following provision: "The Consumer Product Safety Commission shall make no ruling or order that restricts the manufacture or sale of firearms, firearms ammunition, or components of firearms ammunition, including black powder or gun powder for firearms."[29]

In recent years, several members of Congress have introduced bills to amend the Consumer Product Safety Act and allow the CPSC to exercise jurisdiction over firearms. None of these bills have passed.[30] Over the years, Congress has thus kept the CPSC from overseeing the safe design of firearms.

Other Congressional Efforts

Other attempts to regulate gun manufacture at the federal level also have been unsuccessful. In 1993, Representative Major Owens of New York introduced the Firearms Safety and Violence Prevention Act, which would have directed the Bureau of Alcohol, Tobacco and Firearms (ATF) in the Department of the Treasury to regulate the manufacture, distribution, and sale of firearms and ammunition.[31] As the regulatory agency with jurisdiction over the firearms industry, ATF was the most logical choice after the CPSC to define and enforce firearm safety standards.

Historically, ATF has limited its powers to enforcement of federal firearms laws; excise tax collection; inspection of firearms manufacturers, wholesalers, and dealers; and permit issuance for manufacturers, importers, exporters, and dealers. Because of vigorous opposition from the gun lobby and subsequent congressional opposition, ATF has been reluctant to venture into the control of gun design and performance and safety standards or product recall. The Firearms Safety and Violence Prevention Act would have directed the agency to incorporate these areas of firearms regulation into its jurisdiction. The bill did not receive action either in 1993 or when it was reintroduced in 1995, however. The Firearms Safety and Consumer Protection Act of 1999 would have directed the Secretary of the Treasury (who oversees ATF) to regulate firearms safety, but it also failed to pass. It was reintroduced in 2001.[32]

Congress has the ability to control gun design and distribution directly even if it does not vest regulatory authority in an agency such as the CPSC or ATF. Congressional passage of gun legislation has been slow, however, and for

To date, at least four states have enacted legislation or regulations designed to require product safety features on guns.

some gun issues, nonexistent. Although the public strongly favors legislation that would treat guns as consumer products[33] (see the article by Smith in this journal issue), Congress remains stalemated on this topic.

State and Local Efforts

In the absence of federal legislation or regulation concerning the design of guns, a few states have become interested in taking on this role. To date, at least four states have enacted legislation or regulations designed to require product safety features on guns.

In 1997, then-Attorney General Scott Harshbarger of the Commonwealth of Massachusetts promulgated regulations, under his consumer protection authority, for the design and distribution of handguns.[34] The regulations required, among other things, that commercially sold handguns contain childproofing features to prevent an average five-year-old from discharging the firearms. In 1999, California enacted a law that requires all firearms sold in the state to be accompanied by a state-approved safety device. The intent of that law is to decrease childhood firearm injuries.

Legislation in New Jersey and Maryland goes a step further. New Jersey law requires an assessment of whether childproof handguns are technologically feasible, and when such feasibility exists, requires that new handguns sold in that state must be childproof. In 2000, Maryland enacted legislation addressing handgun design. That state's law provides that, beginning on January 1, 2003, a gun dealer in Maryland may not sell any handgun manufactured after December 31, 2002, unless the handgun has an integrated mechanical safety device that disables or locks the gun and is designed to prevent the handgun from being discharged unless the device has been deactivated. A Maryland state government agency will be responsible for reviewing the status of personalized gun technology and will report its findings annually to the governor and the legislature. Other states and cities are considering similar legislation.

Litigation Efforts

Passing legislation designed to protect the public's health is sometimes difficult or impossible because of powerful political forces that oppose such legislation. These forces may be motivated by a desire to safeguard financial profits, by general distaste for government regulation in its broadest sense, or by a commitment to preserve what are perceived as important individual rights. With guns, all of these motivations come into play, but the strongest appears to be the view that every citizen retains the right to possess any weapon he or she chooses and that government cannot in any way abridge that right. This view derives from an interpretation of the Second Amendment to the U.S. Constitution that the federal courts have rejected. The Second Amendment states, "A well regulated militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be infringed." The great weight of judicial authority, including the U.S. Supreme Court, interprets the Second Amendment as providing a collective right to bear arms that relates to militias, not an individual right.[35] Even though the Second Amendment does not legally block federal or state legislation addressing the design of firearms, political opposition to such legislation has been fierce. As has happened in other areas of public health, such as motor vehicle safety and tobacco policy, advocates can turn to the courts for relief if protective legislation becomes infeasible.[36] Litigation against gun manufacturers, seeking to hold them liable for safety-related defects in their products, is another way to bring pressure to install safety features on guns.

Litigation Brought by Cities, Counties, and States

Beginning with New Orleans and Chicago, many cities and counties, as well as New York state, have sued firearms manufacturers, alleging that they have designed and distributed their products in a manner that has resulted in high firearm-related death rates. These lawsuits are still in their early stages, with some having been dismissed and others having survived the defendants' motions to dismiss. (See Box 1.) Collectively, the lawsuits have put considerable financial pressure on the firearms-manufacturing industry to design safer products, as exemplified by the Smith & Wesson story mentioned earlier.

Box 1

Lawsuits against the Gun Industry

As of November 1, 2001, 32 municipalities and one state attorney general have filed 23 lawsuits against gun manufacturers to recover damages for the creation of a public nuisance, the negligent distribution of their products, and the creation of products with inadequate safety features. Municipalities that have taken the lead in filing suits include Atlanta, Georgia; Boston, Massachusetts; Bridgeport, Connecticut; Camden, New Jersey; Camden County, New Jersey; Chicago, Illinois; Cincinnati, Ohio; Cleveland, Ohio; Detroit, Michigan; the District of Columbia; Gary, Indiana; Los Angeles, California; Los Angeles County, California; Miami-Dade County, Florida; Newark, New Jersey; New Orleans, Louisiana; New York City, New York; Philadelphia, Pennsylvania; San Francisco, California; St. Louis, Missouri; Wayne County, Michigan; and Wilmington, Delaware. The New York State Attorney General also has filed a lawsuit.

These lawsuits are in various phases of litigation. To date, 9 of the 23 lawsuits have proceeded through the initial stages of litigation. Nine more lawsuits have been dismissed. Those municipalities whose lawsuits have been dismissed are appealing their cases to higher courts. The higher courts have dismissed four lawsuits to date.

In addition to these municipalities, hundreds of individuals have filed suit against the gun industry. Because courts do not have reporting requirements for cases filed by individuals against gun manufacturers, the most complete database of these lawsuits is compiled from reports by a network of attorneys and maintained by the Educational Fund to Stop Gun Violence. The database includes about 700 cases. Of these 700 cases, thus far approximately 20% either have been won or settled favorably for the persons bringing the suits.

Sources: Educational Fund to Stop Gun Violence. Downloaded from http://www.firearmslitigation.org on August 24, 2001; Morrisette, C. Educational Fund to Stop Gun Violence Advisory. Washington, DC: Educational Fund to Stop Gun Violence, September 30, 2001; Associated Press. Connecticut Supreme Court won't reinstate gun lawsuit filed by Bridgeport. Downloaded from http://www.sfgate.com on October 1, 2001; Vicini, J. Supreme Court allows dismissal of gun maker suit. Reuters. Downloaded from http://dailynews.yahoo.com on October 9, 2001; and Joshua Horwitz, executive director, Educational Fund to Stop Gun Violence. Personal communication, November 1, 2001.

Litigation Brought by Individuals

Individuals injured by gunfire and their family members also have sued gun manufacturers for alleged failure to design safer guns. Some of these lawsuits have focused on magazine disconnect devices, loaded chamber indicators, and personalized gun technology. Many such lawsuits get settled before trial without court rulings that serve as precedent for future cases. Of the cases in which rulings have occurred, some plaintiffs bringing the suits have won and others have lost; a cohesive, clear body of law on the subject has yet to be developed.[37]

Conclusion

Changing the design of guns, especially handguns, has the potential to reduce the incidence of gun-related injuries to children and others. In many cases, the technology to make such changes already exists. Even the most advanced technologies, such as handguns that will read fingerprints to detect whether a person is authorized to use the weapon, seem feasible in the immediate future.

Existence of the technology in itself, however, is insufficient to alter the design of guns. Manufacturers must have the will to make these changes. Demands of the marketplace no doubt will influence decisions to modify design, but clearly the public, including the gun-buying public, wants guns to be safer.[33] Thus, it is the intransigence of the gun makers that must be addressed. This is beginning to take place through legislation, regulation, and litigation. Ultimately, it is likely that safer guns will be mandated by law and, as a result, the incidence of gun-related injuries to children will be reduced.

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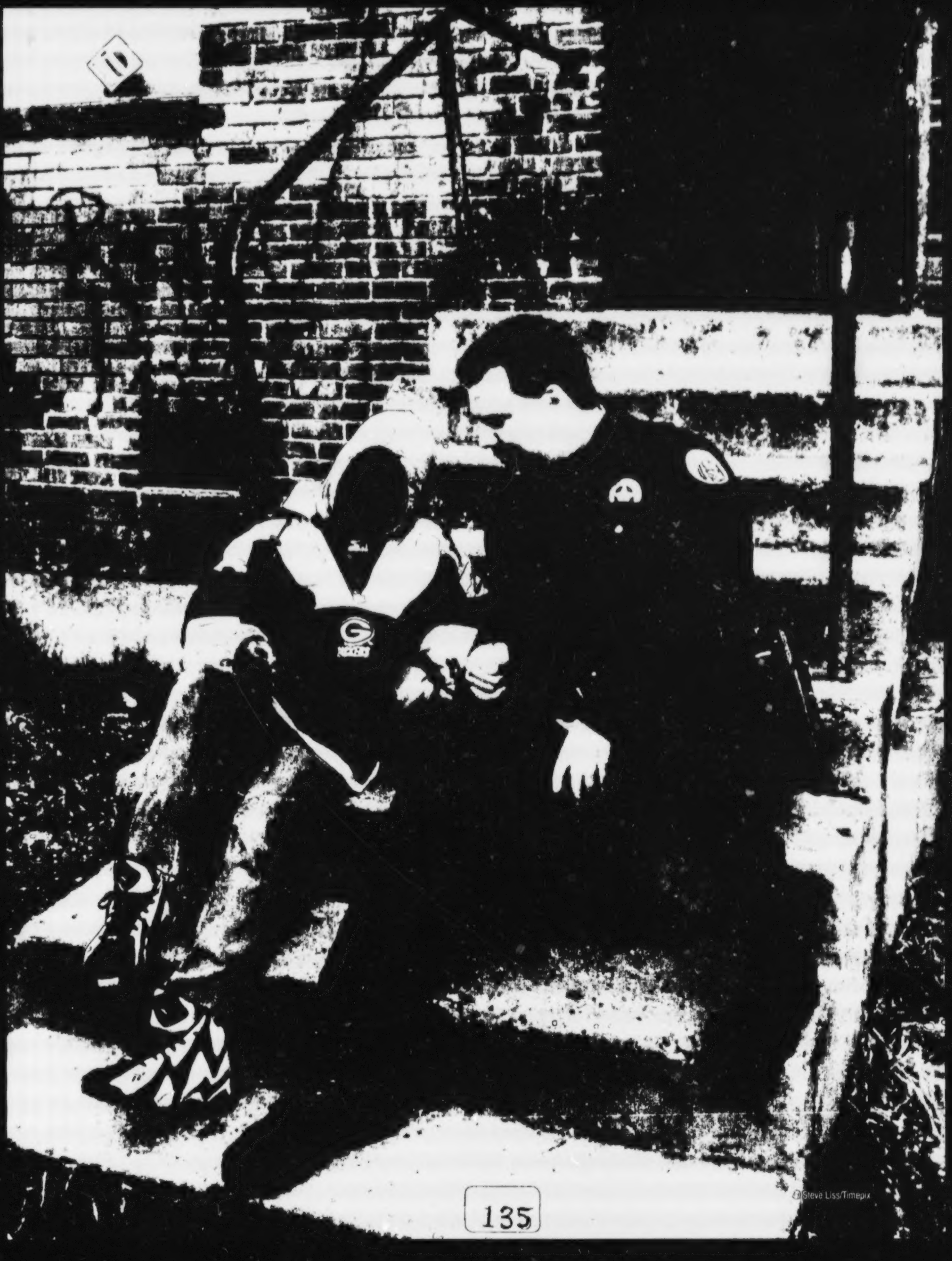

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Policing Guns and Youth Violence

Jeffrey Fagan

SUMMARY

To combat the epidemic of youth gun violence in the 1980s and 1990s, law enforcement agencies across the United States adopted a variety of innovative strategies. This article presents case studies of eight cities' efforts to police gun crime. Some cities emphasized police–citizen partnerships to address youth violence, whereas others focused on aggressive enforcement against youth suspected of even minor criminal activity. Still others attempted to change youth behavior through "soft" strategies built on alternatives to arrest. Finally, some cities used a combination of approaches. Key findings discussed in this article include:

- Law enforcement agencies that emphasized police–citizen cooperation benefited from a more positive image and sense of legitimacy in the community, which may have enhanced their efforts to fight crime.
- Aggressive law enforcement strategies may have contributed to a decline in youth gun violence, but they also may have cost police legitimacy in minority communities where residents felt that the tactics were unfair or racially motivated.
- Approaches that emphasize nonarrest alternatives and problem-solving strategies offer an intriguing but unproven vision for addressing youth gun violence.

None of the initiatives presented in the case studies has been shown conclusively to reduce youth gun crime over the long term. The author suggests that policing alone cannot contain youth gun violence, but by carefully balancing enforcement with community collaboration, police departments can help shift social norms that contribute to youth gun violence.

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The epidemic of youth gun violence in the United States from 1985 to 1998 triggered a crisis of social and political consequences that mobilized legal institutions to develop effective policies and programs targeting youth violence.[1] Even before this most recent homicide crisis, however, numerous experiments and innovations in policing had been taking place in cities across the United States; some of these were quickly adapted in the effort to combat youth gun violence.[2] Under the flag of "community policing," "problem-oriented policing," and "order-maintenance policing," police departments launched a variety of new approaches to chronic problems of crime and disorder. Youth gun violence was often the focus of these reforms and experiments.

These initiatives ranged from intensive and aggressive street-level interdiction of low-level disorder to new forms of neighborhood–police partnerships, often called "community policing."[3] Several of these efforts were designed in response to an influential essay on "Broken Windows," which described the contagious effects of disorder on crime.[4] (See Box 1 later in this article.) Other programs focused on specific individuals and high-crime neighborhoods.[5] Still others sought to expand the toolkit of police to include solving social problems through interaction and collaboration with citizens.[6] In these strategies, police focused their efforts on issues that concerned residents the most, while motivating citizen cooperation in the everyday policing of crime.

This article presents eight case studies (see Table 1) of cities where policing innovations were targeted at gun violence. It summarizes the underlying conceptual framework of each effort and describes both its strategies and its specific focus on youth violence.[7] Evaluation data are limited, but when available, the results of each initiative are reported. These case studies suggest three different approaches to strengthening social control to reduce youth gun violence:

- *Reciprocal Control.* Cities that adopted this approach to policing gun violence, including Boston, Chicago, and San Diego, aimed to make the crime-control activities of police and community groups mutually reinforcing. Power-sharing arrangements evolved between police and citizens through a process of problem solving and collective decision making.
- *Punitive Legal Control.* The punitive approach focused on deterring gun violence through vigorous law enforcement. New York City emphasized aggressive street-level enforcement to detect and remove guns through intensive surveillance and high arrest rates. Project Exile in Richmond pursued aggressive prosecution strategies against gun offenders. In these cases, citizens were often excluded from the process of designing strategy, and citizen perspectives were of secondary importance in setting policy.
- *"Soft" Legal Control.* This approach emphasized community-driven, nonarrest methods to reduce youth gun crime. The Firearm Suppression Program in St. Louis implemented voluntary searches of homes where juveniles were suspected of keeping weapons. In Detroit, the juvenile courts adopted a therapeutic, rather than a punitive, approach to encouraging juvenile gun offenders to put down their weapons. Police collaboration with mental health professionals to address gun-related trauma in New Haven also featured the systematic use of nonarrest alternatives to prevent youth gun violence. These efforts helped to mitigate cultural and social barriers between police and citizens.

In several cities, these social control strategies overlapped. Cities such as Boston and Chicago, for example, used both reciprocal and punitive policing strategies. They incorporated both community involvement and intensive surveillance, and enforcement focused on high-risk offenders in specific neighborhoods. Similarly, well-publicized innovations in community policing in San Diego were credited with the lion's share of that city's reduction in violence through the 1990s and were offered as a positive contrast to New York City's aggressive model.[8] But intensive enforcement efforts targeted at street gangs and drug traffickers were also a focus in San Diego throughout this period.[9]

The innovations in police responses to youth gun violence described in this article reflect diverse theories not just of organizational change, but also of how citizens and police might interact to produce security and social control. As these case studies illustrate, police–citizen interactions can influence the course of youth gun violence outbreaks.

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Table 1

Police Approaches to Curbing Youth and/or Gun Violence

Name of Initiative	Location	Key Participants	Policing Strategy	Program Description
The Boston Gun Project	Boston, MA	Boston Police Department, other criminal justice agencies, Harvard University, Ten Point Coalition	Reciprocal, punitive	Targeted young gang members and other offenders; deterred illegal activity by informing potential offenders that even minor infractions would result in a massive police response; worked with churches to create legitimacy for police efforts.
Chicago Alternative Policing Strategy (CAPS)	Chicago, IL	Chicago Police Department, district advisory councils composed of community residents	Reciprocal, punitive	Created citizen councils to advise each police district; held monthly meetings with citizens in each police "beat"; coincided with aggressive police enforcement of anti-loitering ordinance aimed at gang members.
Neighborhood Policing	San Diego, CA	San Diego Police Department, San Diego Organizing Project	Reciprocal	Incorporated extensive community involvement into policing; supported Neighborhood Watch programs; collaborated with community organizations to clean up properties that attracted criminal activity; trained volunteers in crime prevention; assigned police officers to schools to work on community-identified problems.
Order-Maintenance Policing	New York, NY	New York City Police Department	Punitive	Aggressively enforced laws against social disorder with frequent use of "stop-and-frisk" tactics to identify lawbreakers, and with mandatory arrest for even low-level crimes.
Project Exile	Richmond, VA; similar programs in other locations	U.S. Attorney's office	Punitive	Prosecuted all gun-related arrests made by state and local authorities in federal court, where penalties are often more serious.
Firearm Suppression Program	St. Louis, MO	St. Louis Police Department	Soft	With parental consent, searched homes and confiscated illegal weapons from juveniles; did not charge parents who allowed searches with illegal firearm possession.
Therapeutic Jurisprudence	Detroit, MI	Detroit juvenile courts	Soft	Required youth gun offenders to attend a class that emphasized the danger of handguns and the importance of personal responsibility in reducing gun violence.
Child Development–Community Policing Program	New Haven, CT	New Haven Police Department, Yale University School of Medicine	Soft	Trained police officers in mental health and child development to help children who were victims or witnesses of gun violence cope with trauma.

Reciprocal Control: Boston, Chicago, and San Diego

Throughout the 1990s, police departments in Boston, Chicago, and San Diego focused heavily on citizen involvement as a way to reduce youth gun violence. In each of these communities, increased collaboration between citizens and the police may have increased the legitimacy of the police in the eyes of the community. Although the mechanisms for citizen participation varied from city to city, a common thread was cooperation between citizens and police in developing solutions to the problems that contributed to youth violence.

The Boston Gun Project

In Boston, police sought to combat youth gun violence by deterring gang members from engaging in illegal activity. The Boston strategy also incorporated extensive outreach to religious and community leaders in the African American, inner-city neighborhoods where most youth gun violence was taking place. The Boston Gun Project helped to increase legitimacy for the police department in communities that have historically mistrusted the police, but this process remains far from complete.

Two distinct and contrasting narratives comprise the Boston story. In one, the Boston Police Department formed an interagency working group, composed of Harvard University researchers, the police department, and other criminal justice agencies, to collaborate on research and analysis of the city's youth violence problem. The work of this group showed that the problem was concentrated among a small group of high-rate offenders who were deeply involved in Boston's youth gangs.[5]

In response, the working group developed a strategy called "pulling levers," which employed a deterrence model to curb youth violence. Police and probation officers communicated directly to gang members that any wrongdoing would be met with swift and immediate sanctions, including arrest and prosecution for even small infractions as well as the quick revocation of probation or parole for either minor or major violations. The project deterred youth gun violence both by making good on the promise of strong legal reactions to any crime and by saturating neighborhoods with this message via fliers, street work with individual gang members, and group interactions with agency staff from the probation department.[10]

By generalizing deterrence throughout gangs, not just for a few members whose violence had captured the attention of probation and police officers, the initiative sought to create a shift in norms within Boston's youth gangs, encouraging gang members to restrain each other from violent activity. Because the actions of one gang member would trigger a crackdown by police and probation staff on all members of that gang, gangs had a powerful incentive to rein in violent members.

The second narrative in the Boston story was the construction of an "umbrella of legitimacy" that permitted a reconciliation of the interests of the police and the inner-city community that was the focus of the Boston Gun Project.[11] The racialized political climate in Boston—going back to the city's school desegregation conflict and a series of scandals over unfair police treatment of African American males—made it necessary to establish a new climate in which inner-city citizens could embrace and participate in police efforts.[12] The Boston Gun Project sought to build legitimacy for police efforts to end youth gun violence through close interaction with the Ten Point Coalition, a group of Boston ministers from 40 inner-city churches.[11,13] The partnership made sense because the Ten Point Coalition and Boston's law enforcement agencies had reciprocal and aligned goals.[11] Active offenders had undermined the ministers' efforts to reach high-risk youth, while the police needed acceptance by residents of Boston's inner-city neighborhoods to succeed in their surveillance efforts.

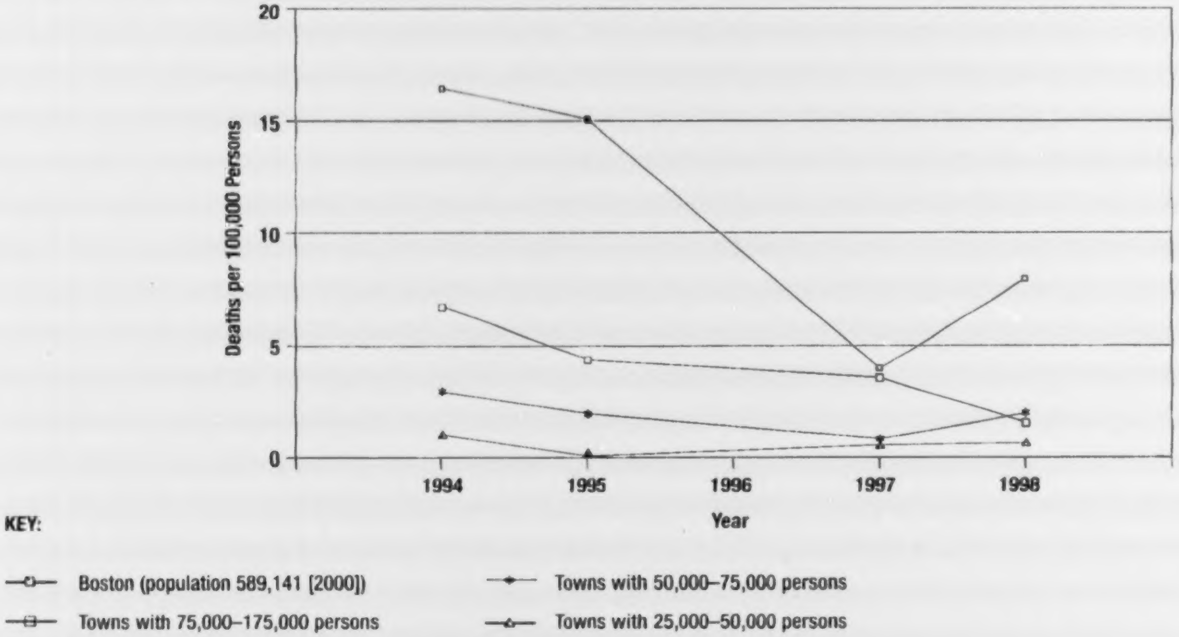
The Coalition engaged with law enforcement agencies to instill community norms opposing violence. The Coalition retained its credibility in the community by maintaining its independence from the police—even criticizing the police—while at the same time working with the police to reach out to at-risk or criminally active youth. Through its contacts with citizens and adolescents, the Coalition has continued to show its disapproval for violence and its desire to keep other youth out of trouble.[11,14]

Although the Boston police can now operate in the slipstream of the Coalition's efforts, legitimacy continues to be an elusive goal for them. According to ethnographic research in Boston's inner-city communities, citizens now view the police as competently and dependably enforcing law in their neighborhoods, but they also feel that the police show "disrespect,"[15] targeting their children for policing and conveying the impression that police efforts are designed to control community residents and protect "others."[15] Residents reported that fair and respectful treatment was important to their ratings of their security and was a factor that motivated or impeded their compliance with police and with the law.[16] The prospects for long-term success from this unique collaboration of churches and the law may lie in the extent to which reciprocal interests and mutual respect are sustained between citizens and police.

Did the Boston Gun Project reduce youth firearm homicide rates more effectively than efforts in other Massachusetts cities? Figure 1 shows that firearm homicides of persons under age 25 declined sharply following the launch of the Boston Gun Project in June 1996 and continued to decline through 1997 before rising again in 1998. However, youth gun homicides in Boston had begun declining in 1995, the year preceding the Boston Gun Project. Also, youth gun homicides declined in other Massachusetts cities during this same period. In cities with populations from 75,000 to 175,000, youth gun homicide victimization rates had declined nearly 75% by 1998, compared to a 50% decline in Boston. The declines in Boston thus seem to have been part of a larger statewide downward trend in youth gun violence. Moreover, homicides in Boston have continued to rise since 1998.

Figure 1

Firearm Homicide Victimization Rate, Ages 0 to 24



Source: Massachusetts Department of Health, Weapon-Related Injury Surveillance System (WRISS); Massachusetts Institute for Social and Economic Research, 1997 population estimates and projections.

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The future of the Boston Gun Project is uncertain. The Coalition of police and clergy faces new problems, including an economy in recession, a return of youth gun violence, and a large cohort of newly released prisoners returning to Boston's inner city. How past successes evolve to meet these new challenges will be a critical test of the validity of the Boston strategy.

Chicago's Community Policing Experiment

Similar to Boston's experience, two narratives unfolded in Chicago. One exemplified "community policing": police–community interactions to reduce crime and support social control. The other incorporated proactive policing of high-risk juvenile and young adult gang members. Although these two approaches to policing were not targeted specifically at youth, they affected policing of youth crime and adolescent gun violence significantly. The two approaches reflected very different visions about the role of citizens in controlling crime and the possibilities for police–citizen collaboration in the coproduction of security.

Known as the Chicago Alternative Policing Strategy, or CAPS, the community policing experiment structured systematic citizen–community interactions at the beat and district levels. Chicago is divided into 26 police districts, which are further divided into 279 beats, each delineating the patrol area of one squad car.[17] Beginning in January 1993, the first of five prototype districts began implementing CAPS. The prototype districts stressed "beat integrity," which meant that officers focused service on their patrol areas. They did not patrol areas outside their beat; individuals were assigned to particular beats for sustained periods; police officers knew the problems and residents of their beats; and residents got to know them.

At monthly meetings in each beat, police met with residents to jointly identify and strategize about the most urgent problems of crime and disorder in their neighborhoods.[18] Each district also created an advisory body of community leaders to represent larger concerns to the district's commander. The prototype program was hailed as a success and expanded to cover the entire city beginning in fall 1994.[17] Approximately 80,000 people attended beat meetings during 1995 and the first four months of 1996.[19]

CAPS was an experiment not just in community policing, but also in democracy.[20] By creating a new democratic deliberative forum, in which agencies and citizens worked together to set enforcement priorities, CAPS offered the promise of accountability of police to citizens. Participation by residents in beat meetings and district advisory councils varied by neighborhood and over time, however.[21] A study of 15 of the 279 police beats found uneven implementation of the CAPS strategy: Four beats were doing well, five showed some successes in implementation, two were "struggling," and four had done nothing at all.[22] The study attributed the variation to individual differences in the officers assigned to CAPS functions.

Even so, citizens reacted positively to the CAPS efforts. A U.S. Department of Justice survey reported that nearly three in four Chicago residents were familiar with the term "community policing," two in three stated that the police were actually doing "community policing," and two in five had heard about the monthly beat meetings.[23]

Safety is only one dimension on which citizens evaluate police actions, and fair treatment may perhaps be a more important factor.

As the CAPS experiment was unfolding, another police initiative sought to eliminate gang activity in Chicago's most troubled neighborhoods. Chicago's May 1992 Gang Congregation Ordinance prohibited "criminal street gang members"[24] from loitering in public places.[25] Under the ordinance, police officers could order the dispersal of two or more persons loitering in a public place if the officers reasonably believed that at least one of the persons was a gang member. Failure to promptly obey such an order was a violation of the ordinance and could result in arrest.

Ultimately, the U.S. Supreme Court found the Gang Congregation Ordinance to be unconstitutional,[26] but only after nearly 40,000 persons had been arrested.[27] A 1995 study of two of Chicago's 26 police districts estimated that 27% of the African American male youth population had been arrested under the ordinance in one district, and 34% in the other.[28] Nor did the ordinance appear to have the desired effect of reducing crime. While it was in effect from 1992 to 1995, murders rose by 2.9% in the three districts with the highest arrest rates, but declined by 54.5% in the three districts with the lowest arrest rates.[28]

In 2000, a revised ordinance was adopted that addressed the U.S. Supreme Court's criticisms. The revised ordinance more carefully spells out the circumstances under which police officers can issue an order to disperse, and it more narrowly defines suspicious behaviors that warrant police attention. It remains in effect today.

Some argue that the Gang Congregation Ordinance reflected the wishes of community members who were victims of gang violence and could not participate in everyday social regulation of neighborhood activities because of fears for their safety.[29] Others argued that the initiative discriminated against youth in minority communities and gave broad, unregulated power to the police to detain and arrest young people. The strategy of aggressive enforcement of a vague law undermined the legitimacy of policing through its broad reach to intervene in behavior at the very lowest thresholds of criminal law violation.[30] Safety is only one dimension on which citizens evaluate police actions, and fair treatment may perhaps be a more important factor.[31] In this algebra, it is unlikely that policies like the Gang Congregation Ordinance can produce legitimacy and promote compliance with the law among inner-city residents, even if they may promote safety.

Despite these concerns, the Gang Congregation Ordinance appears to reflect the future of policing in Chicago. In 2001, Chicago recorded 666 homicides, its first increase since 1994 and the highest total of any city in the nation. Concerned over rising homicide rates, police officials have shifted their strategy to concentrate on the gang problems that drive Chicago's homicides, using aggressive street-level enforcement techniques sanctioned by the ordinance. It remains to be seen whether the CAPS style of police–citizen cooperation in crime control can coexist with this aggressive form of policing—or whether CAPS will be eclipsed entirely.[32]

Neighborhood Policing in San Diego: The Coproduction of Security

Police officials in San Diego adopted the theory and operating principles of community policing, structuring police–citizen interactions to strengthen informal social control and prevent crime. Efforts to reduce youth gun violence were a key part of their strategy, but the police focused on prevention, using arrest only after other approaches failed.

San Diego began a community-policing experiment, the Neighborhood Policing Philosophy, in the late 1980s. In 1993, the department was reorganized, and the entire force retrained to implement community policing.[8] The San Diego reform was focused not on specific crime problems such as gun violence or youth crime, but instead on the creation of a systemic process of police–citizen interactions to maximize social control. The result was a reciprocal process, with police and citizens closely aligned in pursuit of shared goals.

The San Diego Police Department's strategy included sharing information with citizens for analysis of crime problems, forming partnerships with community groups to address problems that motivate or facilitate crime, and emphasizing routine, noncoercive police contacts with citizens to share responsibility for crime prevention and control. This approach shifted the police department's emphasis from traditional surveillance–investigation–apprehension to identification and remediation of the social and physical conditions that facilitate crime.

Partnerships between the police and citizens were forged among elites in government, labor, education, and citizen groups, and were replicated at the local level. A steering committee was formed in 1993 to guide the reform, and at the same time, community advisory boards were formed, mirroring the larger group. The San Diego Organizing Project, a citywide advocacy group, provided leadership to legitimize the collaboration with the police.

The neighborhood policing strategy in San Diego included the common elements of community policing elsewhere: (1) support for "neighborhood watch" and citizen patrol groups to look for suspicious activity, identify community problems, and work on crime-prevention projects; (2) use of civil remedies and strict building code enforcement to abate nuisances such as drug markets or drug-use locations; and (3) collaboration with community organizations and local business groups to clean up, close down, or redesign locations and properties that repeatedly attracted prostitution, drug, and gang problems.[9]

What set the San Diego reform apart from other community policing efforts was the role embraced by organized neighborhood volunteers. The San Diego Police Department recruited and trained a pool of more than 1,000 citizen volunteers to perform a broad array of crime-prevention and victim-assistance services. Accordingly, the San Diego experiment integrated community policing with community participation.[9]

Specific efforts to reduce youth gun violence in San Diego began in 1997 with the formation of a task force of 200 people, including representatives from police, probation, schools, the juvenile court, parents, community advisory boards, and nonprofit groups. The task force created juvenile service teams, with officers placed in schools to focus on needs identified by the community advisory boards. The teams referred youth at risk of gun violence to local service providers. In addition, a gang-suppression team focused on the city's estimated 5,000 gang members, who were involved in a large share of youth gun injuries, and a narcotics task force focused on violence in drug markets.

These teams pursued a crime-prevention strategy based on community perspectives that arrests failed to offer long-term solutions to youth gun violence.[9] Similar to the Ten Point Coalition and the Boston Gun Project, the teams placed a wide net of social control over youth before they became involved with gun violence. Legal sanctions were used as a last resort to address problems that had failed to respond to other nonarrest solutions.

The San Diego effort has not been fully evaluated, but it offers a compelling vision of how a police department can fully involve its citizens in making communities safer. Extensive community participation and the police department's nonpunitive approaches toward reducing youth gun violence spared San Diego much of the ill will and mistrust spawned by aggressive policing tactics in New York City—the next focus of this article.

Punitive Legal Control: New York City and Richmond

The punitive approach aims to deter youth gun violence through aggressive law enforcement against all offenders, even those who have committed low-level crimes. Although both Boston and Chicago included punitive components in their law enforcement strategies, they also used other tools to combat gun violence. In contrast, New York City and Richmond relied primarily on punitive strategies. In both cities, rates of gun violence fell precipitously, with punitive strategies getting much of the credit for the drop. However, because these strategies fail to involve the community or change the dynamics of citizen participation in crime control, punitive approaches do not hold the promise of reducing youth gun violence in the long term.

Order-Maintenance Policing in New York City

Beginning in 1994, New York City police officials redesigned crime-control strategies to focus on two related problems: (1) social and physical disorder and (2) gun violence. The police adopted a strategy known as "order-maintenance policing" (OMP), which focused on fighting crime by targeting low-level disorder. The New York Police Department (NYPD) cracked down on low-level crime through aggressive enforcement measures; hundreds of thousands of New Yorkers—including large numbers of adolescents—were subject to stop-and-frisk actions under this policy. The OMP approach was credited with significant declines in gun violence in New York City in the mid- to late 1990s. But this success came at a price: increased community mistrust of police and perceptions that the police were engaging in racial profiling.

New York City's OMP strategy derived from what has become popularly known as Broken Windows theory.[33,34] (See Box 1.) Under OMP, police aggressively enforced laws against social disorder with "zero tolerance," requiring arrest for any law infraction.[35] Low-level offenses that required arrest under the policy included graffiti, aggressive panhandling, fare beating, public drunkenness, unlicensed vending, public drinking, and public urination.

Box 1

The Broken Windows Theory of Policing

Broken Windows theory has had an extraordinary influence on American policing in the past two decades—in New York City and many other cities. The theory, originated by Professors James Q. Wilson and George Kelling, has also stimulated a body of academic writing on the subject of order maintenance.[a]

Because signs of physical and social disorder invite criminal activity,[b] Wilson and Kelling argue, police should address minor disorders to strengthen police–citizen interactions and promote informal social control.[b,c] Disorder indicates to law-abiding citizens that their neighborhoods are dangerous places, making these citizens afraid to take an active role in promoting social order in their communities and leading them to withdraw from community life.[d] At some tipping point, the theory suggests, disorder trumps order by defeating the willingness of citizens to interact with the police to promote security. Disorder invites more disorder in a contagious process that progressively breaks down community standards and ultimately invites criminal invasion.

Theories about how social norms work suggest that individuals create norms of either legal or illegal behavior in their communities through interactions with others.[e] Broken Windows theory calls for changing social norms in communities where crime is pervasive, removing the cues of crime (such as vandalism, petty theft, and loitering), and replacing those cues with alternative cues that signal order and social regulation. Citizen–police collaboration is a critical element in the theory; citizens engage with police to enforce norms of orderliness.[f] When police focus on repairing or removing low-level disorder problems, Wilson and Kelling argue, they combat crime by promoting social interactions among law-abiding citizens; this, in turn, strengthens the dynamics of social regulation that produce security and social control.[g]

[a] See, for example, Kelling, G.L. Order maintenance, the quality of urban life, and police: A line of argument. In *Police leadership in America.* W.A. Geller, ed. Westport, CT: Praeger, 1985; Klockars, C.B. Order maintenance, the quality of urban life, and police: A different line of argument. In *Police leadership in America.* W.A. Geller, ed. Westport, CT: Praeger, 1985; Klockars, C.B. Street justice: Some micro-moral reservations: Comment on Sykes. *Justice Quarterly* (December 1986) 3(4):513–16; Sykes, G.W. Street justice: A moral defense of order maintenance policing. *Justice Quarterly* (December 1986) 3(4):497–512; Sykes, G.W. The myth of reform: The functional limits of police accountability in a liberal society. *Justice Quarterly* (March 1985) 2(1):51–66; and Greene, J.R., and Taylor, R.B. Community-based policing and foot patrol: Issues of theory and evaluation. In *Community policing: Rhetoric or reality?* J.R. Greene and S.D. Mastrofski, eds. New York: Praeger, 1988, pp. 195, 201–03.

[b] Wilson, J.Q., and Kelling, G.L. The police and neighborhood safety: Broken windows. *Atlantic Monthly* (1982) 249(3):29–38. Wilson and Kelling's definition of "minor" disorder includes such problems and crimes as littering, loitering, public drinking, panhandling, teenage fighting on street corners, and prostitution. Also mentioned are signs of physical disorder, including abandoned cars (with broken windows, naturally) and dilapidated buildings (also with broken windows).

[c] Livingston, D. Police discretion and the quality of life in public places: Courts, communities, and the new policing. *Columbia Law Review* (1997) 97:551–672; Waldeck, S.E. Cops, community policing, and the social norms approach to crime control: Should one make us more comfortable with the others? *Georgia Law Review* (2000) 34:1253–1310; and Harcourt, B.E. Reflecting on the subject: A critique of the social influence conception of deterrence, the broken windows theory, and order-maintenance policing New York style. *Michigan Law Review* (1998) 97(2):291–356.

[d] See note no. 2, Wilson and Kelling, p. 33.

[e] Meares, T.L., and Kahan, D.M. Law and (norms of) order in the inner city. *Law and Society Review* (1998) 32(4):805–31. For an illustration based on ethnographic research, see Anderson, E. *Code of the streets.* New York: Norton, 1999.

[f] See note no. 5, Meares and Kahan, p. 823.

[g] Ellickson, R.C. Controlling chronic misconduct in city spaces: Of panhandlers, skid rows, and public-space zoning. *Yale Law Journal* (1996) 105(5):1165–1248.

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Although stop-and-frisk tactics most likely contributed in part to the crime decline in New York City, their precise contribution is contested.

This policy was very different from traditional notions of community policing. Typically, community policing has emphasized citizen–police collaboration to reduce social disorder; avoidance of coercive encounters with citizens on the street; and efforts to remedy physical disorder in the community through activities such as cleaning up trash-strewn lots, painting over graffiti, or correcting code violations in buildings.[36] Instead, the NYPD adopted a policy of aggressive stop-and-frisk practices. In practice, the policy evolved as gun-oriented policing based on aggressive stops and searches of people suspected of carrying guns illegally or committing even minor infractions.[37,38] With nearly all increases in homicides, robberies, and assaults during this period attributable to gun violence, it is not surprising that the NYPD focused on guns.[37] (See the article by Blumstein in this journal issue.) The homicide crisis was a critical theme in the mayoral election campaign of 1993 and focused the attention of the incoming Giuliani administration's crime-control policy on gun violence.[39]

This tactical shift toward aggressive stops and searches departed sharply from the pristine version of Broken Windows theory, as well as from the original version of OMP and other models of community policing.[40] As originally conceptualized, OMP involved the enforcement of community standards "through non-arrest approaches—education, persuasion, counseling, and ordering—so that arrest would only be resorted to when other approaches failed."[41] New York City's policy ultimately violated the principles of OMP in two ways. First, the NYPD version of OMP rejected the emphasis on alternatives to arrest and prosecution—essential tenets of the theory.[42] Second, community standards were not identified through structured and systematic interactions between police and community leaders. Instead, the NYPD turned to a sophisticated data-driven management accountability system to identify community needs.

The focus on guns nudged OMP in New York City into a pattern of racial policing. Because disorder is more often prevalent in urban neighborhoods with elevated rates of poverty and social fragmentation,[43] OMP tactics were disproportionately concentrated in minority neighborhoods, where disorder and crime were conflated with poverty and socioeconomic disadvantage. Minority citizens thus widely perceived OMP as racial policing or racial profiling.[44] The fact that the principal tactic was an aggressive form of stop-and-frisk policing involving intrusive searches[45] and that at least two deaths of unarmed citizens of African descent were linked to OMP[46] further intensified perceptions of racial animus.[47]

In other words, New York City's implementation of Broken Windows theory produced a style of racial policing that stigmatized minority communities and widened an already-troubling racial breach in the city.[48] Although stop-and-frisk tactics most likely contributed in part to the crime decline in New York City, their precise contribution is contested.[49] But there also is little doubt that there were social costs from the crackdown on crime, which may have compromised the original intent of Broken Windows theory: to rebuild social norms against crime.[31] As one researcher observed, these efforts "have little to do with fixing broken windows and much more to do with arresting window breakers—or persons who look like they might break windows, or...strangers...or outsiders."[50]

Prosecution of Gun Offenders in Richmond

From time to time, federal prosecutors have pursued a strategy of selective federalization of high-profile crimes that otherwise would fall under state jurisdiction, using the significant prosecutorial resources of the federal branch to increase the likelihood of conviction and lengthier sentences. One such effort, Project Exile, is targeted at gun violence. Project Exile was conceived in the late 1980s in the U.S. Attorney's office encompassing Richmond and the surrounding regions of Virginia. Although the program in its original form was not targeted specifically at youth, some communities have adapted it to focus on youth. Project Exile has been credited with declines in gun violence. It includes little community involvement, however, which makes it dif-

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ficult for the program to change youth cultural norms surrounding guns. Moreover, new studies suggest that the program's successes may have been overstated.

In Project Exile's original form, all gun arrests made by state and local authorities were prosecuted in federal court under federal firearms statutes, which were more stringent than state laws and allowed for longer prison sentences.[51] To increase its general deterrent effect, Project Exile was implemented with "an innovative community outreach and education initiative...to get the message to criminals that illegal guns are unacceptable and will not be tolerated."[52]

Both 2000 presidential candidates embraced Project Exile, and politicians from both parties have endorsed the program, lauding what they see as its successes.[53] Indeed, the initial results of Project Exile seemed impressive. Prosecutors obtained 59 indictments within two weeks of launching the project,[54] and firearms seizures declined by 50% within three months.[55] Within two years, 438 indictments had been obtained,[52] and Project Exile was associated with a 33% reduction in the homicide rate over a two-year period.[56] In 1999, the Justice Department sought resources to expand Project Exile in a limited way. Funds were allocated for hiring federal prosecutors, but none of the other program elements (such as outreach efforts to the community) were included.

Unfortunately, recent studies show that declines in gun violence produced under Project Exile were no greater than the general decline in gun violence throughout U.S. cities during that time.[57] The decline in Richmond's gun homicide rates represented a continuation of the general downward trend in gun homicides in that city during the years preceding Project Exile and was not unusual compared to the declines in gun homicides in other cities during the same years. Broad reductions in gun violence were consistent in most of the nation's large cities during the late 1990s, regardless of whether Project Exile or similar programs were in effect.

Despite mixed evidence of its impact, Project Exile has inspired several other programs nationwide. Operation Safe Neighborhoods (OSN) in Baltimore, for example, seeks to identify and prosecute high-risk individuals involved in gun violence and gun trafficking.[58] As in Project Exile, the agencies involved in OSN have made a concerted effort to directly "deliver this message"[59] to offenders. Community organizations and faith institutions are involved to address conditions that give rise to gun violence, a strategy similar to that used in Boston. Prosecution, however, is clearly at the forefront of the program. Like Project Exile, OSN is not specifically targeted at juveniles.

Another program, the Youth Violence Handgun Initiative in Seattle, does focus on adolescents and uses selective prosecution to address youth gun crime problems.[60] Several studies suggest that prosecution became more efficient under this initiative. Charges were filed more quickly, case-processing time was reduced, and conviction rates increased from 65% to 78%.[61]

Project Exile and similar programs make conscious efforts to respond to gun violence problems with highly visible and strong punishment and to deter would-be youth gun offenders by communicating the high odds that gun possession or gun crimes will evoke punishment. Prosecution does not address safety issues that pervade the developmental ecology of adolescents when gun violence is common in their communities, however. (See the article by Garbarino, Bradshaw, and Vorrasi in this journal issue.) Though such efforts may ensure that justice is done to youth gun offenders, they are not likely to change the scale of youth gun violence or the presence of guns in youth culture significantly. Deterrence messages often are trumped by danger on the streets and the perception of teenagers that they need to carry arms for their own safety.[62, 63]

Soft Legal Control: St. Louis, Detroit, and New Haven

Some law enforcement agencies have tried to reduce youth gun violence in their communities by emphasizing nonpunitive "soft" approaches, with arrest and incarceration available as a last resort when other approaches fail. Three cities—St. Louis, Detroit, and New Haven—adopted innovative "soft" strategies to address youth gun violence in the 1990s. Although these strategies had mixed records at reducing youth gun crime, they offer compelling visions for how police can expand their toolkits when working with youth.

Consensual Gun Searches in St. Louis

The St. Louis Firearm Suppression Program (FSP) incorporated the concepts of community involvement from Chicago and Boston to develop a gun-oriented policing policy that was precisely the opposite of the policy in New York City.[64] Operated by the St. Louis Police Department, FSP was a "knock-and-talk" program that elicited parental consent to enter homes to search for and seize guns from juveniles.[65]

The program was straightforward. Responding to a request from a parent, or a report from a neighbor, FSP officers would visit the home and ask an adult resident for permission to conduct a search for illegal weapons. The officers would explain that the search was intended solely to confiscate illegal firearms, particularly those belonging to juveniles, and that there would be no criminal prosecution. A "Consent to Search and Seize" form allowed police to enter the home legally and conduct the search.[66] Adult residents also were told that they would not be charged with illegal firearm possession if they signed the consent form.[66]

As in Boston, Chicago, and San Diego, the St. Louis effort reflected an analysis of youth gun violence problems by police in collaboration with the community. Indeed, researchers have characterized the program as "a response to problems identified by citizens."[66] However, citizens participated in a limited way in this experiment, by consenting to police searches, in contrast to the structured community interactions of citizens and police in problem solving in other cities.

The St. Louis strategy differed from New York City's aggressive, order-maintenance policing strategy by narrowly constructing targets and focusing efforts on well-defined situations. By avoiding broad suspicion based on crime demography, the St. Louis police minimized the possibility of mistakenly targeting innocent people for aggressive law enforcement. Moreover, the interaction of police and citizens to produce a voluntary police intervention incorporated elements of procedural fairness[67]—including ethical and objective treatment—that promoted trust and confidence in the law and legal actors as well as higher rates of compliance with legal norms.[68]

When juveniles lose their guns, will they re-arm? This seems likely if broader steps are not initiated to reduce the overall perceived level of gun-related danger.

Some obvious questions arise about this "soft approach"[69] to gun-specific search and seizure. First, the level of perceived coerciveness in these situations is unclear. How voluntary is "consent" when police officers arrive at the door and ask permission to search the home? Citizen refusals raise a related challenge. If police respond to a refusal by obtaining a warrant and conducting a nonconsensual search, the authenticity of the "consensual" search is compromised.

Second, security and control may not directly increase when neighbors are encouraged to "snitch" on each other.[70] Police–citizen interactions differ when a parent invites the police to a home, compared to when a citizen refers police to a neighbor's home. The latter situation does little to knit social ties among neighbors and may lead to counterproductive scenarios in which neighbors accuse each other falsely or fail to come to each other's aid when crimes occur nearby.

Other challenges are implicit in the program. The information provided to police is likely to vary in authenticity, from poor (from jailhouse informants or vindictive neighbors) to very good (from parents). The balance of risks is delicate for police. If police act on poor and inaccurate information, they risk negative reaction from families that could undermine later searches. If they reject information, they risk a gun crime that might have been prevented.

Moreover, what rate of seizures per search will be viewed as successful, compared to seizures resulting from more coercive tactics? A low "hit rate" when searches are voluntary may create internal pressure either to increase coercion or to abandon the voluntary component of searches. Finally, when juveniles lose their guns, will they re-arm? This seems likely if broader steps are not initiated to reduce the overall perceived level of gun-related danger.[63]

The comparative advantage of voluntary searches is the promise of citizen–police interaction to reduce gun violence—a partnership that can have secondary benefits for social control of youth crime. Complex operational questions challenge the program, however, and it must operate in tension with police culture; noncriminal justice alternatives work against a norm that rewards police for the arrests they make.[71] Evidently, neither the program's benefits in crime control nor its internal support were sufficient to sustain it; the program was disbanded in 1998, shortly after a new police chief was named in St. Louis.

Therapeutic Jurisprudence for Young Gun Offenders in Detroit

Another effort to reduce gun violence among youth built on the growing influence of therapeutic jurisprudence, or "treatment courts," in American justice systems. A specialized court in Detroit tried to convince juvenile gun offenders to put down their weapons. An evaluation of the court found that it did change youth attitudes toward guns, but that it led to little corresponding behavioral change—partly because the specialized court did nothing to address dangers in the community that led youth to feel they needed to carry guns for protection.[62]

The typical treatment court works this way: Persons charged with specific offenses consent to have charges filed, then plead guilty or accept responsibility. The defendant then accepts placement in a treatment program in lieu of formal punishment. If progress in the program is deemed satisfactory, charges are dropped or the conviction is expunged; otherwise, the court may choose a different service provider, often more intensive and restrictive, or reinstate formal punishment. The term therapeutic jurisprudence reflects the emphasis in these courts on behavioral change through treatment interventions motivated and monitored within a legal framework.[72]

This approach was applied to youth gun violence in a specialized court in Detroit.[62] Offenders charged with possession of handguns were required to attend a four-hour class held in the courtroom as a condition of pretrial release. Classes emphasized the dangers of handguns and challenged participants to take personal responsibility for reducing the negative consequences of

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Unfortunately, assessing the effectiveness of police interventions regarding youth gun violence is difficult at best.

gun possession. The program included dialogues with the judge, focusing on culture and responsibility; slide shows depicting murder victims; interactions with older felons; and a "pledge" not to initiate gun violence.[73]

A randomized trial involving 446 subjects showed significant and positive effects in a two-week follow-up, including (1) weaker belief that guns afforded control in threatening situations, (2) stronger belief that gun fights could be avoided, (3) weaker support for gun use in conflict situations, (4) weaker belief that guns afforded positive social status, (5) stronger belief that ties should be broken with peers who continued to carry or use guns, (6) stronger support to avoid situations where guns might be present, and (7) greater knowledge about the risks of injury and death from gun use.[73] These attitudinal changes rarely translated into behavioral change, however. In focus groups, many participants said that everyday danger and fear motivated gun possession, gun carrying, and at times, gun use.

Two lessons follow from this limited experience. First, a specialized court for youth gun offenders might be an effective forum to bring about cognitive and attitudinal change. It is steeped in legitimacy, with a judge whose personal involvement imbues the legal interaction with moral authority. Messages that might otherwise be dismissed may be taken seriously in this forum. Second, however, the decisions of young persons to carry weapons reflect their assessments of danger in their lives. Policing and legal sanctions for gun violence may be effective only when young people perceive that a broader shift in norms is reducing the level of danger in their communities and the motivation for gun use that it evokes.

Mental Health Partnerships to Reduce the Trauma of Gun Violence in New Haven

The lethality of youth gun violence is compounded by traumatic effects on bystanders, peers, and others caught in its ecology of danger. When teens witness or experience violence, or see the aftermath of a violent act they committed, the traumatic effects can adversely affect development and shape how teens react in the future to threatening situations.[74] (See the article by Garbarino, Bradshaw, and Vorrasi.) In New Haven, police and mental health officials came together in an innovative collaboration to help children and youth cope with gun-related trauma. The idea was to prevent future youth violence by addressing trauma when it occurs.

Police are hard pressed to deal with trauma, even though they have frequent contact with children involved in shootings. Culturally, most police lack the training to deal with the psychological aftermath of gun violence, and the demands of their job rarely leave time for sustained involvement. Police culture provides little support for reacting therapeutically. In the worst of circumstances, police involvement can aggravate trauma rather than ameliorating it.

The Child Development–Community Policing Program in New Haven, located at the Yale University School of Medicine, incorporated principles of child development and psychological functioning into the everyday work of police officers.[75] It also built institutional linkages between police and mental health, integrated community participation into police planning and supervision, and altered police approaches in encounters with children exposed to violence.

This process built on a strong platform of police–citizen interaction, begun in 1991, that already had credibility and momentum in New Haven. Credible relationships with citizens made possible police–citizen interactions focused on problem solving, especially where recurring violence and its traumatic components were concerned.

The Yale University staff sought to shift social norms among the police and mental health professionals by offering fellowships to a 10-week seminar they created for management and line staff from both fields. The seminar was heavily experience-based, with case studies that helped participants build a common language about trauma and adolescence. The program also created a consultation service to help officers who recognized the need for intervention with traumatized children and youth that they encountered. Police officers used their new clinical perspective to interact with schools to address truancy problems, and with child welfare workers regarding placements for children removed from their homes because of violence or neglect. The integration of mental health perspectives into police work, and the development of concrete ties between police and mental health systems, had tangible payoffs for police and motivated openness to new ways of approaching problems of youth violence.

Conclusion

Two critical questions remain about the efforts of the cities described in this article. First, did these policing innovations help reduce youth gun violence? Second, what lessons do these experiences offer for future policing strategy, specifically in the context of adolescent gun violence?

Analyses of gun violence rates in the nation's 20 largest cities suggest few differences from one place to the next in the patterns of gun violence since 1985.[37] Even in cities such as Houston and Dallas, where no specific policing innovations took place during this time, gun violence rates rose and fell in roughly the same pattern as in the cities described in this article. It is not only fair but critical to ask, "How much do police make a difference?"

Unfortunately, assessing the effectiveness of police interventions regarding youth gun violence is difficult at best. Efforts to understand how policy affects gun violence will need to disentangle the competing and overlapping effects of police interventions. Measures to capture "dosages" of enforcement and social control under different rubrics need to be developed. The role of larger forces—such as the business cycle, large-scale nationwide demographic shifts, declining drug markets, and rising rates of incarceration—must also be considered seriously.[76]

These case studies do suggest that policing alone cannot contain lethal youth violence. The challenge to policing, then, is to contain the epidemic nature of gun violence while promoting social control and regulation to resist future waves of gun violence. Police actions are not likely to stop the cycle of youth gun violence, but their tactics can shape the history of that violence: how long it persists, how serious it is at its peak, and whether its aftermath hastens or forestalls future epidemics. Strategies that balance security, social control, and legitimacy are essential to shift norms on a scale that matches the prevalence of lethal youth violence.

The case studies also show the importance of focusing police strategies on guns and gun violence, not just on people. Police must incorporate procedural justice and moral legitimacy in order to make their efforts salient among youth and adults in communities burdened with gun violence and promote the citizen-police interactions that will produce security.

It is also crucial to recognize two specific contexts surrounding youth gun violence that require thoughtful approaches: adolescent development and the role of race. First, youth gun violence reflects a crisis of adolescent development in contexts of violence and danger.[77] The complex role that gun violence plays in the formation of social identity, and the behavioral scripts that teens use to negotiate the challenges of everyday life, must be considered in the design of strategies for controlling gun violence.

Second, race is everywhere in this equation and must be a factor in policing. Communities that suffer loss and injury from gun violence are most often those that are racially segregated and socially disadvantaged. Policing in this social context requires sensitivity to questions of legitimacy and procedural fairness. When policing is perceived as externally imposed, casting a broad net of guilt, and performed with little consent of the citizens most affected, each interaction between police and citizens can corrode the legitimacy of the law and police. Each interaction also can motivate or deter citizens from participating in the tasks of social control. Reconfiguring criminal justice along lines of legitimacy and proportional and procedural fairness will benefit youth and adults alike and broaden the web of social control to reduce the danger that guns pose to children and youth in the United States.

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ENDNOTES

1. Legislators toughened laws for crimes committed with firearms, many of which targeted adolescents. Nearly every state has changed its laws since 1990 to permit more certain and harsher punishment of violent juvenile offenders in the criminal justice system. See Torbet, P., Gable, R., Hurst, H., et al. ***State responses to serious and violent juvenile crime.*** Research report. Washington, DC: Office of Juvenile Justice and Delinquency Prevention, 1996; Feld, B.C. ***Bad kids.*** New York: Oxford University Press, 1998; Zimring, F.E. ***American youth violence.*** New York: Oxford University Press, 1998; and Fagan, J., and Zimring, F.E., eds. ***Changing borders of juvenile justice: Transfer of adolescents to the criminal court.*** Chicago: University of Chicago Press, 2000.
2. Goldstein, H. ***Problem-oriented policing.*** Philadelphia, PA: Temple University Press, 1990; Greene, J.R., and Mastrofski, S.D., eds. ***Community policing: Rhetoric or reality?*** New York: Praeger, 1988; and Skolnick, J.D., and Bayley, D. ***The new blue line: Police innovation in six American cities.*** New York: Free Press, 1986.
3. For a detailed analysis of the conceptual bases of these innovations and a description of them in practice, see Livingston, D. Police discretion and the quality of life in public places: Courts, communities, and the new policing. ***Columbia Law Review*** (1997) 97(3):551–672.
4. Wilson, J.Q., and Kelling, G.L. The police and neighborhood safety: Broken windows. ***Atlantic Monthly*** (1982) 249(3):29–38.
5. Kennedy, D.M. Guns and violence: Pulling levers: Chronic offenders, high-crime settings, and a theory of prevention. ***Valparaiso Law Review*** (1997) 31(2):449–80.
6. See note no. 2, Goldstein; Skogan, W., and Hartnett, S.M. ***Community policing, Chicago style.*** New York: Oxford University Press, 1997; and Greene, J.R., and Taylor, R.B. Community-based policing and foot patrol: Issues of theory and evaluation. In ***Community policing: Rhetoric or reality?*** J.R. Greene and S.D. Mastrofski, eds. New York: Praeger, 1988.
7. Some of these experiments took place in the context of multiple law enforcement interventions, complicating the attribution of change to specific strategies.
8. Greene, J.A. Zero tolerance: A case study of police policies and practices in New York City. ***Crime and Delinquency*** (1999) 45(2):171–87.
9. Personal communication with former San Diego Police Chief Jerry Sanders, November 2001.
10. Kennedy, D.M. Pulling levers: Getting deterrence right. ***National Institute of Justice Journal*** (June 1998) 2(36):238–49.
11. Winship, C., and Berrien, J. Boston cops and black churches. ***Public Interest*** (Summer 1999) 136:52–68.
12. Scandals included a pattern of unconstitutional "stop-and-frisk" drug interventions and the sweeps of African American males as suspects in the wake of a racial hoax alleging the murder of a white woman, Carol Stuart, by an African American male. These sweeps led to the arrest of an African American suspect, William Bennett, who was ultimately exonerated when suspicion shifted to Charles Stuart, Carol Stuart's husband. Charles Stuart eventually committed suicide. See Heymann, P.B. The new policing. ***Fordham Urban Law Journal*** (2000) 28(2):407–56. See also, Massachusetts Attorney General's Office. ***Report of the Attorney General's Civil Rights Division on Boston Police Department practices.*** Boston, MA: Office of the State Attorney General, December 18, 1990.
13. Reardon, C. Faith matters: A ministry for the mean streets. ***Ford Foundation Report*** (Spring/Summer 1999) 30:8–10.
14. See note no. 12, Heymann.
15. Stoutland, S. Trust, police legitimacy, and efforts to reduce youth violent crime: Community perspectives from Boston. Unpublished manuscript. Cambridge, MA: John F. Kennedy School of Government, Harvard University.
16. Tyler, T.R., and Darley, J.M. Building a law-abiding society: Taking public views about morality and the legitimacy of legal authorities into account when formulating substantive criminal law. ***Hofstra Law Review*** (2000) 28(3):707–39 (showing the interaction between procedural fairness, perceptions of legitimacy, and willingness to comply with the moral and normative bases of law).
17. Fung, A. Street level democracy: A theory of popular pragmatic deliberation and its practice in Chicago school governance and community policing, 1988–97. Ph.D. diss., Massachusetts Institute of Technology, 1999.
18. Chicago Community Policing Evaluation Consortium. ***Community policing in Chicago.*** Interim report. Evanston, IL: Institute for Policy Research, Northwestern University, 1994.
19. See note no. 17, Fung, citing various annual reports of the Chicago Community Policing Evaluation Forum.
20. Fung, A. Deliberative democracy, Chicago style. Paper presented at the Conference on Real Utopias V: Experiments in Empowered Deliberative Democracy. Madison, WI. January 2000.
21. See note no. 6, Skogan and Hartnett.
22. Skogan, W., Hartnett, S., DuBois, J., et al. ***On the beat: Police and community problem solving in Chicago.*** Boulder, CO: Westview Press, 1999.
23. See note no. 12, Heymann.
24. The ordinance stated, "Whenever a police officer observes a person whom he reasonably believes to be a criminal street gang member loitering in any public place with one or more other persons, he shall order all such persons to disperse and remove themselves from the area. Any person who does not promptly obey such an order is in violation of this section...'Criminal street gang' means any ongoing organization, association in fact or group of three or more persons, whether formal or informal, having as one of its substantial activities the commission of one or more of the criminal acts enumerated in paragraph (3), and whose members individually or collectively engage in or have engaged in a pattern of criminal gang activity." Chicago Municipal Code §8-4-015 (June 17, 1992). Each violation of the ordinance is punishable by a fine of up to $500, imprisonment for not more than six months, and up to 120 hours of community service.
25. The Chicago Police Department's General Order 92-4 limited officers' enforcement discretion by (1) confining arrest authority to designated officers, (2) establishing detailed criteria for defining street gangs and membership therein, and (3) providing for designated but publicly undisclosed enforcement areas. See Meares, T.L., and Kahan, D. ***Brief amicus curiae of the Chicago neighborhood organizations in support of petitioner, City of Chicago v.***

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Morales, 119 S. Ct. 1849 (1999) (no. 97-1121). Available online at LEXIS, Supreme Court Cases and Materials Library, U.S. Supreme Court Briefs File; see also Meares, T.L., and Kahan, D. Foreword: The coming crisis of criminal procedure. *Georgetown Law Journal* (1998) 86(5):1153–84.

26. *City of Chicago v. Morales,* 119 S. Ct. 1849 (1999).

27. Harcourt, B.E. After the "Social Meaning Turn": Implication for research design and methods of proof in contemporary criminal law policy analysis. *Law & Society Review* (1998) 34(1):179–211.

28. Schulhofer, S.J. Inner city policing after City of Chicago v. Morales. Paper presented at the Fortunoff Colloquium, New York University School of Law. New York, NY: January 25, 2000.

29. See note no. 25, Meares and Kahan, 1999.

30. Grossman, H., Lipson, M., Schwartz, A.D., and O'Toole, B. *Brief of respondents, City of Chicago v. Morales,* 119 S. Ct. 1849 (1999) (no. 97-1121). Available online at LEXIS, Supreme Court Cases and Materials Library, U.S. Supreme Court Briefs File.

31. Fagan, J., and Meares, T.L. Punishment, deterrence and social control: The paradox of punishment in minority communities. *Punishment & Society,* in press. Also available online at http://papers2.ssrn.com/papers.taf?abstract_id=223148; and Tyler, T.R. Public trust and confidence in legal authorities: What do people want from the law and legal institutions? *Behavioral Science and the Law* (2001) 19(2):215–35. Neighborhood residents in high crime neighborhood often express satisfaction with the lowered crime rate, but greater distrust of police when aggressive stop, search, and arrest tactics are used. Tyler also notes that some judgments are made on vicarious experiences of neighbors and friends.

32. Fernkoff, E. Hillard vows new blitz to cut murders. *Chicago Tribune.* January 18, 2002, at 1; and Fernkoff, E. Local gun cases going federal. *Chicago Tribune.* May 7, 2002, at 1. Cook County and the counties surrounding Chicago will become part of a $532 million federal program to prosecute gun crimes in federal courts, where sentences are typically far harsher than in state courts. Bringing this program to Chicago was a reaction to Chicago's sharp spike in homicides in 2001. It is modeled closely after Project Exile, which is discussed later in this journal article.

33. See note no. 4, Wilson and Kelling, p. 31. For reviews of Broken Windows theory, see note no. 3, Livingston, p. 578 (discussing the relationship between Broken Windows theory and current policing practices); Harcourt, B.E. Reflecting on the subject: A critique of the social influence conception of deterrence, the Broken Windows theory, and Order-Maintenance Policing New York style. *Michigan Law Review* (1998) 97(2):291–356 (critiquing Broken Windows theory and empirical research claiming to support the link between disorder and crime); and Meares, T.L., and Kahan, D.M. Law and (norms of) order in the inner city. *Law and Society Review* (1998) 32(4):805–31 (discussing the link between social norms theory and law enforcement policies).

34. See note no. 3, Livingston, p. 632.

35. Definitions of the crimes that constitute disorder vary but generally include unlicensed peddling and vending, public drunkenness and open drinking, vandalism (including graffiti), public urination, loitering, littering, panhandling, prostitution, and menacing misbehavior. The latter often is symbolized by "squeegee" men who solicit money in return for unsolicited cleaning of motorists' windshields at stoplights, the type of activity subject to OMP enforcement that most closely expressed popular conceptions of the policy. See Kelling, G., and Coles, C. *Fixing broken windows.* New York: Free Press, 1996. More recently, OMP was extended to control jaywalking and unleashed dogs. See Waldeck, S.E. Cops, community policing, and the social norms approach to crime control: Should one make us more comfortable with the others? *Georgia Law Review* (2000) 34(3):1253–1310; Bratton, W., and Knobler, P. *Turnaround: How America's top cop reversed the crime epidemic.* New York: Random House, 1998 (discussing the NYPD's policy to rid the city of squeegee people); and Bratton, W.J. The New York City Police Department's civil enforcement of quality-of-life crimes. *Journal of Law and Policy* (1995) 3(3):447–64.

36. See, for example, note no. 3, Livingston, p. 584; note no. 2, Goldstein, p. 134; Kelling, G.L., and Moore, M.H. From political to reform to community: The evolving strategy of police. In *Community policing: Rhetoric or reality?* J.R. Greene and S.D. Mastrofski, eds. New York: Praeger, 1988; and Mastrofski, S.D. Community policing as reform: A cautionary tale. In *Community policing: Rhetoric or reality?* New York: Praeger, 1988.

37. Fagan, J., Zimring, F., and Kim, J. Declining homicide in New York: A tale of two trends. *Journal of Criminal Law and Criminology* (1998) 88(4):1277–1324.

38. Fagan, J., and Davies, G.D. Street stops and broken windows: Terry, race, and disorder in New York City. *Fordham Urban Law Journal* (2000) 28(2):456–503.

39. These tactical shifts were intended to raise the stakes for criminals who carried guns. The policy assumed, quite explicitly, that the fact that would-be offenders were more likely to be stopped for minor crimes or infractions would deter them from carrying guns. See note no. 35, Bratton and Knobler, pp. 219–20; Silverman, E. *NYPD battles crime: Innovative strategies in policing.* Boston: Northeastern University Press, 1999; and Karmen, A. *New York murder mystery: The true story behind the crime crash of the 1990s.* New York: New York University Press, 2000.

40. See note no. 6, Skogan and Hartnett; and note no. 2, Goldstein.

41. See note no. 35, Kelling and Coles.

42. See note no. 35, Waldeck.

43. Skogan, W.G. *Disorder and decline: Crime and the spiral of decay in American neighborhoods.* New York: Free Press, 1990; and Sampson, R.J., and Raudenbush, S.W. Systematic social observation of public spaces: A new look at disorder in urban neighborhoods. *American Journal of Sociology* (1999) 105(3):603–51.

44. Kocieniewski, D. Success of elite police unit exacts a toll on the streets. *New York Times.* February 15, 1999, at A1 (discussing reactions of citizens to aggressive policing in New York City); and Roane, K.R. Minority private-school students claim police harassment. *New York Times.* March 26, 1999, at B5 (citing complaints by minority students of indiscriminate and frequent police harassment).

45. There is an irony about the use of such citizen detentions and searches as a crime-fighting tool. The decision in *Terry v. Ohio,* 392 U.S. 1 (1968), identified the frisk less as an investigative aid than as a protection for the patrolling officer: "The frisk...was essential to the proper performance of the officer's investigatory duties, for without it the answer to the police officer may be a bullet." That

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stop-and-frisk tactics engender animosity was made explicit in the original *Terry* decision. The Supreme Court in *Terry* noted that a frisk "is a serious intrusion upon the sanctity of the person, which may inflict great indignity and arouse strong resentment, and is not to be undertaken lightly" (392 U.S., at 17, 88 S. Ct. 1868). The Court also noted that *Terry* stops had the potential to inflict psychological harm: "Even a limited search constitutes a severe, though brief, intrusion upon cherished personal security, and it must be an annoying, frightening, and perhaps humiliating experience."

46. See, for example, Fish, J.F. Is our drug policy effective? Are there alternatives? ***Fordham Urban Law Journal*** (2000) 28(1):9–21.

47. Citizens who are stopped and frisked based on a profiling or racial policing strategy often know that they have been singled out because of their race. These encounters have been termed "race-making situations." See Jones, D.R. The racial ghetto as a race-making situation: The effects of residential segregation on racial inequalities and racial identity. ***Law and Social Inquiry*** (1994) 19(2):407–32. The outrage of many minority citizens to the NYPD's policy of aggressive stops and frisks reflects not only the emotional harm from being targeted because of one's race, but also the fear that such situations can escalate into dangerously violent encounters. See Harris, D.A. The stories, the statistics, and the law: Why "driving while black" matters. ***Minnesota Law Review*** (1999) 84(2):265–326. The shared danger of profiling encounters reflects the concept of "linked fate" among residents of minority neighborhoods. "Linked fate" refers to the empathy that people have with family and friends. It can also exist among strangers. In the African American community, "linked fate" has its foundation in the fact that race has historically shaped the life chances of African Americans. Linked fate explains that when race overdetermines an individual's life chances, it is much more efficient for that individual to use the relative and absolute status of the group as a proxy for individual utility. See Dawson, M.C. ***Behind the mule: Race and class in African-American politics.*** Princeton, NJ: Princeton University Press, 1994.

48. Office of the Attorney General of the State of New York, Civil Rights Bureau. ***The New York City Police Department's "stop and frisk" practices.*** New York: Office of the Attorney General, December 1999; also see note no. 44, Kocieniewski.

49. See note no. 37, Fagan, et al. (crediting the decline in gun violence in part to "gun-oriented policing"); and note no. 35, Waldeck, pp. 1283–84 (suggesting that the stop-and-frisk tactics produced a crackdown that deterred many from carrying weapons or drugs).

50. See note no. 33, Harcourt, p. 342.

51. Richman, D.C. Project Exile and the allocation of federal law enforcement authority. ***Arizona Law Review*** (2001) 43(2):369–411.

52. United States Attorney's Office for the Eastern District of Virginia, Richmond Division. ***Project Exile*** (March 22, 1999) 3.

53. See note no. 51, Richman, at notes 9–14 and accompanying text.

54. Campbell, T. Gun users to face rigors of U.S. case: 59 are indicted in local-federal effort. ***Richmond Times Dispatch.*** March 7, 1997, at B5.

55. Campbell, T. An "exile" for firearms? Some gun-toting criminals face federal prosecution. ***Richmond Times Dispatch.*** July 7, 1997, at A1.

56. Janofsky, M. Fighting crime by making a federal case about guns. ***New York Times.*** February 10, 1999, at A12.

57. Raphael, S., and Ludwig, J. Do prison sentence enhancements reduce gun crime? The case of Project Exile. Paper presented at the Brookings Conference on Gun Violence and Gun Policy. Washington, DC. January 24–25, 2002.

58. Myers, J. Operation Safe Neighborhoods: Deterring gun violence in Baltimore. Paper presented at RAND Criminal Justice Workshop on Effective Strategies to Reduce Gun Violence. Santa Monica, CA. January 21, 2000.

59. See note no. 58, Myers, p. 4.

60. Scales, B., and Baker, J. ***Seattle's effective strategy for prosecuting juvenile firearm offenders*** (NCJ 178901). U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention (March 2000).

61. See note no. 60, Scales and Baker, p. 6.

62. Roth, J.A. The Detroit Handgun Intervention Program: A court-based program for youthful handgun offenders (NCJ FS 000231). ***National Institute of Justice Research Preview.*** Washington, DC: NIJ, November 1998.

63. Fagan, J., and Wilkinson, D.L. Guns, youth violence and social identity in inner cities. In ***Youth violence, Vol. 24, Crime and justice: A review of research.*** M. Tonry and M.H. Moore, eds. Chicago: University of Chicago Press, 1998, pp. 105–88.

64. Rosenfeld, R., and Decker, S.H. Consent to search and seize: Evaluating an innovative youth firearm suppression program. ***Law and Contemporary Problems*** (Winter 1996) 59(1):197–224.

65. A similar program has been developed in Tucson, Arizona. As part of Project Excalibur, Tucson Police Department officers conduct "knock-and-talk" consensual searches. Officers knock on the door of a residence where they suspect that illegal guns are present and ask permission to search the home for guns. See ***Gun violence reduction plan (Project Excalibur).*** Mayor and Council Memorandum. Tucson, AZ, December 18, 2000, p. 9.

66. See note no. 64, Rosenfeld and Decker, p. 204.

67. See note no. 64, Rosenfeld and Decker, p. 204, citing anecdotes describing broad acceptance of police interventions by consenting citizens.

68. Tyler, T.R. ***Why people obey the law.*** New Haven, CT: Yale University Press, 1990.

69. Bryan, B. Soft sell of searches nets police 3,900 guns. ***St. Louis Post-Dispatch.*** April 10, 1995, at 13A.

70. Some argue, however, that snitching may build social norms by promoting constructive interactions between police and citizens to align police authority with citizens who wish to combat antisocial norms and activities but are intimidated from exerting social regulation directly. See note no. 33, Meares and Kahan.

71. See note no. 35, Waldeck.

72. Drug treatment courts are the best-known example of therapeutic jurisprudence. Juvenile courts are the early models for specialized courts, and some have risen to the status of therapeutic

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jurisprudence. Domestic violence courts, courts specializing in cases involving mentally ill offenders, and courts for prostitutes and others engaged in recurring crimes also practice therapeutic jurisprudence. Their involvement in the complex behavioral dynamics and systemic problems that produce crime set them apart from courts whose jurisprudence is organized around regimes of rights and punishments. See Dorf, M.C., and Sabel, C.F. Drug treatment courts and emergent experimentalist government. *Vanderbilt Law Review* (2000) 53(3):831–83; Hora, P.F., Schma, W.G., and Rosenthal, J.T.A. Therapeutic jurisprudence and the drug court movement: Revolutionizing the criminal justice system's response to drug abuse and crime in America. *Notre Dame Law Review* (1999) 74(2):439–537; Rottman, D., and Casey, P. Therapeutic jurisprudence and the emergence of problem-solving courts. *National Institute of Justice Journal* (July 1999) 240:12–19; and Wexler, D.B., and Winick, B.J. *Law in a therapeutic key: Developments in therapeutic jurisprudence*. Chapel Hill, NC: Carolina Academic Press, 1996.

73. See note no. 62, Roth, p. 2.

74. Richters, J., and Martinez, P. The NIMH community violence project: I. Children as victims of and witnesses to violence. *Psychiatry* (1993) 56(1):7–21.

75. Marans, S., and Berkman, M. *Child development–community policing: A partnership in a climate of violence* (NCJ 164380). Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention, March 1997; and Marans, S. *The police–mental health partnership: A community-based response to urban violence*. New Haven, CT: Yale University Press, 1995.

76. Blumstein, A., and Wallman, J., eds. *The crime drop in America*. New York: Cambridge University Press, 2000; and LaFree, G. *Losing legitimacy*. Boulder, CO: Westview Press, 1998.

77. Fagan, J., and Wilkinson, D.L. The social contexts and developmental functions of adolescent violence. In *Violence in American schools*. D.S. Elliott, B.A. Hamburg, and K.R. Williams, eds. New York: Cambridge University Press, 1998.

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Public Perspectives

EDITOR'S INTRODUCTION

The final two articles in this journal issue, called "Public Perspectives," focus on aspects of the public debate surrounding youth access to guns. Rarely does a children's issue generate as much controversy as this one does. Few Americans are neutral when it comes to young people and gun violence—and their opinions are strongly held. Indeed, the United States often seems split into two intractable camps on the issue.

Although both of these camps condemn youth gun violence—whether in the form of homicide, suicide, or unintentional shootings—they differ dramatically in their approaches to the problem. One camp feels that most children and youth cannot be trusted around guns without strict supervision and that restrictions on youth access to guns are justified as a way to prevent youth gun violence, even if these restrictions make guns more difficult for adults to obtain and use. The other camp believes that after a certain age, youth can be trained to use guns responsibly; that the broader culture, not the availability of guns, is the major cause of youth gun violence; and that restrictions on gun purchases threaten what they view as constitutionally guaranteed freedoms. The two camps are polarized and hostile. As a result, many public policies with the potential to reduce youth gun violence remain stalled in Congress, in state legislatures, and at the local level.

The articles in this section of the journal shed some light on the deeply held beliefs of Americans on both sides of the debate about youth gun violence. The first article, by Smith, reviews trends in public opinion regarding gun control, particularly policies that restrict youth access to guns.

The author finds that public support for most forms of gun control is strong, deep, and widespread. This support has not wavered over the past 30 years. Also unchanged during this time period, however, is the presence of a significant minority of Americans who oppose most gun-control measures. The author argues that opinions on gun control, both for and against, are so deeply entrenched that they are unlikely to change in the near future.

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The second article, by Forman, examines the opinions of advocacy groups working on both sides of the guns issue. The author interviewed 29 gun control and pro-gun advocates to determine how they view youth gun violence and how they believe it can be prevented. The article vividly illustrates how polarized the debate around youth gun violence has become. Even on issues where some advocates on both sides agree, such as safe storage of guns and increased investment in youth at risk of gun violence, common ground has been nearly impossible to find.

These articles illustrate the contentious atmosphere that pervades any discussion of youth gun violence in the United States. No one is in favor of youth gun violence, but neither can Americans seem to find consensus on what to do about it. Hopefully, by casting light on dimensions of the public debate about this issue, these articles can at least provoke discussion of areas where consensus might be achieved and progress made in preventing the more than 20,000 youth gun deaths and injuries that occur in the United States each year.

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Public Opinion about Gun Policies

Tom W. Smith

On contentious issues such as gun control, where advocacy groups on both sides claim to have the weight of public opinion behind them, polling can help clarify what Americans really think. Three decades of polling have painted a clear picture of public opinion about gun control. These polls show that public support for the regulation of firearms is strong, deep, and widespread.[1] Large majorities back most policies to control the manufacture and sale of guns, increase gun safety, and restrict criminals from acquiring firearms. This general support for gun control extends to policies specifically intended to prevent children's access to guns and reduce youth gun violence.

This article outlines the level of public support for gun control measures. It begins with a description of Americans' broad-based support for virtually every type of firearms regulation and an assessment of how strongly gun control supporters feel about the issue. The next section of this article focuses on Americans' attitudes toward firearms regulation to protect children and youth. The article concludes with an examination of historical trends in public opinion about guns—making the point that American public opinion about gun control is fixed and unlikely to change much over time.

The article relies primarily on public opinion polling data from the National Opinion Research Center (NORC) at the University of Chicago.[2] The NORC General Social Survey currently polls 3,000 Americans biennially regarding their attitudes on social issues. Since 1972, it has assessed Americans' attitudes toward firearms regulation. From 1996 to 1999, NORC also conducted the annual National Gun Policy Survey. Taken together, the NORC data provide the most complete picture available of American public opinion about guns and of how public opinion has evolved over time.[3]

Support for Gun Control Measures

From 1996 to 1999, NORC conducted four National Gun Policy Surveys, each of which asked a representative sample of 1,200 Americans their views on three types of gun control policies: general gun control, gun safety, and restriction of criminals' access to guns.

General gun control consists of policies to regulate the manufacture and sale of guns. Such measures include requiring police permits, background checks, waiting periods, or licensing and registration for all gun owners.

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Table 1

Support for General Gun Control Measures[a]

Gun Control Measure	% in Support
Tamper-resistant serial numbers on guns (97–98)	89.6
Police permit needed before gun may be purchased (GSS)	82.0
Mandatory background check and five-day waiting period for gun purchases	80.7
Mandatory registration of handguns	80.0
Must be 21 to buy handgun	79.9
Require background check for private sales of guns	78.6
Restrict sales of handgun ammunition like handguns themselves	73.4
Willing to pay $25 in taxes to reduce gun injuries (97–98)	71.4
Keep guns from criminals, even if that makes it harder for law-abiding citizens to obtain guns	69.8
Prohibit gun imports not allowed in country of origin (98)	69.2
Ban high-capacity ammunition magazines	66.6
Handgun owners must at least be licensed and trained[b]	65.7
Mandatory registration of rifles/shotguns	61.3
Concealed carrying only for those with special needs	55.9
Prohibit importing of guns (98)	55.1
Ban "Saturday night specials" (98)[c]	54.2–58.2
General concealed-carrying laws make communities less safe	45.2
Ban possession of handguns, except by police or authorized persons (98)	38.5
Total ban on handguns	12.8

Source: Smith, T.W. *1999 National gun policy survey of the National Opinion Research Center: Research findings.* Chicago, IL: NORC, 2000.

[a] Results are from the 1999 national gun policy survey, except as marked otherwise. For question wording, see Smith, 2000.

[b] 12.8% wanted a "total ban of handgun ownership," and 52.9% said that "handgun owners should be licensed by the government and complete mandatory training." Therefore, 65.7% favored licensing or a more stringent measure.

[c] See alternative wording in Smith, 2000. For the meaning and use of the term "Saturday night special," see Oliver, C. A new way to control crime? "Saturday night specials" bans haven't worked. *Investor's Business Daily,* February 6, 1996, at A1.

As Table 1 indicates, large majorities of respondents to the NORC National Gun Policy Surveys support this type of gun control, particularly when it comes to handguns. In the 1999 poll, for example, nearly 81% of respondents supported a background check and a five-day waiting period before a handgun could be purchased; 80% endorsed mandatory registration of handguns; and some 54% to 58% wanted to ban domestic manufacture of "small, easily concealed, and inexpensive handguns."[4] Of the 11 general gun control measures that NORC asked about in 1999, the average respondent supported 7.[5]

Women, residents of large cities and their suburbs, liberals, and Democrats are most likely to support general gun control measures, whereas men, residents of rural areas, conservatives, and Republicans are least likely to support such measures. People with higher levels of educational attainment also are more likely to support general gun control measures. Support does not vary by marital status, age, or income.

The second type of gun control measure, gun safety, consists of policies designed to make guns safer and less accessible to unauthorized users such as children. These measures include establishing federal consumer product

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safety standards for guns, requiring that guns be childproof, and requiring gun owners to store their guns safely (that is, locked and unloaded). As Table 2 shows, support for safety-related gun control measures is even stronger than support for measures to regulate the sale of guns. Substantial majorities consistently support most safety-related policies, especially federal safety standards for handguns and requirements that guns be childproof. (See the article by Teret and Culross in this journal issue.) Of the 11 gun safety measures that NORC polled in 1999, the average respondent supported 8.[6]

As with general gun control measures, women, residents of large cities and their suburbs, liberals, and Democrats are most likely to support gun safety measures, whereas men, residents of rural areas, conservatives, and Republicans are least likely to support them. Support does not vary by income or education, but younger adults are more likely to support gun safety measures than are people over age 50.

Finally, the NORC surveys asked about policies aimed at restricting criminals' access to guns. Such measures include prohibiting gun purchases by people convicted of certain crimes and increasing sentences for those convicted of using guns in crime. As Table 3 shows, most Americans want to keep guns out of the hands of criminals—even those convicted of misdemeanors—and to punish the criminal misuse of guns. In the 1999 poll, as Table 1 indicates, nearly 70% of the respondents agreed that "the government should do everything it can to keep handguns out of the hands

Table 2

Support for Gun Safety Measures[a]

Gun Safety Measure	% in Support
Require federal handgun safety standards	94.1
Federal handgun safety standards even if it makes guns more expensive	86.3
Require that all new handguns be childproof	85.6
Gun buyers must take gun safety course	84.7
Require that new handguns have magazine safety (97–98)[b]	81.9
Make manufacturers liable for injuries from defects in guns (97–98)	79.3
Make owners liable for injuries if gun not stored to prevent misuse by children	76.2
Guns must be stored in locked box or cabinet	74.1
Guns must be stored unloaded	73.9
Require that all new handguns have load indicator (97–98)[c]	73.2
Guns must be stored with trigger lock	72.8
Current gun owners must take gun safety course	68.3
Require federal safety regulations for gun design	66.2
Require that all new handguns be personalized[d]	63.4
Current gun owners who will not take gun safety course should be required to turn in their guns	49.3
Willing to pay $50 in taxes to enforce personalized handgun law	34.4

Source: Smith, T.W. *1999 National gun policy survey of the National Opinion Research Center: Research findings.* Chicago, IL: NORC, 2000.

[a] All results are from the 1999 national gun policy survey, except as marked otherwise. For question wording, see Smith, 2000.

[b] Magazine safeties are devices that prevent a gun from being fired if the magazine has been removed from the gun.

[c] Load indicators are devices that indicate whether guns are loaded.

[d] Personalized guns, or "smart guns," would incorporate fingerprint recognition or other technology so that only authorized users could fire the guns.

of criminals, even if it means that it will be harder for law-abiding citizens to purchase handguns."

Policies That Draw Public Opposition

One type of gun control policy draws consistent public opposition: the general prohibition of guns. In the 1998 poll, less than 39% of respondents supported restricting the possession of handguns to "the police and other authorized persons"; in 1999, less than 13% wanted a "total ban on handguns." These numbers indicate that the public's support for firearms regulation does have its limits.

Indeed, despite a general desire for stronger firearms regulation, many Americans feel that an armed citizenry makes for a safer community. This attitude can be seen in poll findings regarding "concealed-carry" laws, which allow law-abiding citizens to carry concealed weapons in most public places. In recent years, at least 29 states have enacted "shall-issue" concealed-weapons laws, which require states to issue concealed-weapons permits to any adult who passes a criminal background check (and in some cases completes a gun safety course). A narrow plurality of Americans, some 45%, believe that shall-issue concealed-carry laws make communities less safe, whereas 44% feel that these laws make communities safer.[7]

Strength of Public Support for Gun Control

Contrary to popular beliefs about the strength of support for gun rights, the NORC data indicate that gun control advocates are at least as strong in their support for gun control as opponents are in their opposition. Gun control advocates have engaged in slightly more political actions (such as contacting politicians) than their opponents have. Pro-gun control candidates pick up more votes than anti-gun control candidates in hypothetical congressional races. In addition, people who rank crime and violence as the nation's top problem support more gun control measures than those less concerned about crime.[8]

Gun Control and Violence Prevention Policies Aimed at Children and Youth

The NORC National Gun Policy Surveys also asked American adults their opinions regarding gun control policies designed to prevent children and youth from using firearms. The data here tell a story similar to that told by polling data on more general gun control

Table 3

Attitudes toward Guns and Criminal Activity

Percentage Who Support Prohibiting Gun Sales to Criminals Convicted of...	
Domestic violence	90.4
Drunk and disorderly conduct (97–98)	83.6
Carrying a concealed weapon without a permit	82.6
Assault and battery that does not involve a lethal weapon or serious injury	81.8
Driving under the influence of alcohol	66.5
Percentage Who Support a Waiting Period and $25 Fee to Pay for Background Checks	78.9
Percentage Who Support Tougher Penalties for Criminal Gun Use	
Double sentence if gun used during crime	78.2
Treat illegal gun possession as a serious crime	81.6

Source: Smith, T.W. *1999 National gun policy survey of the National Opinion Research Center: Research findings.* Chicago, IL: NORC, 2000. For question wording, see Smith, 2000.

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Table 4

Support for Measures to Curb Youth Violence

Measure	% in Support
Expel threatening, violent, and unstable students	81.0
Metal detectors and guards in all schools	73.5
Prohibit ownership/use of firearms to individuals under age 18	68.0
Prohibit guns in homes with anyone under age 18	29.1

Source: Smith, T.W. *1999 National gun policy survey of the National Opinion Research Center: Research findings.* Chicago, IL: NORC, 2000. For question wording, see Smith, 2000.

measures. Americans strongly support measures to restrict youth access to guns and reduce school violence, but they oppose measures to ban guns from households with children. Perhaps surprisingly, there is little difference between the opinions of parents and nonparents on gun control issues.

Support for Restricting Youth Access to Guns

As Table 4 illustrates, the public broadly supports measures to restrict youth access to guns. In 1999, for example, 68% would refuse to allow children under age 18 to own or use firearms. In addition, nearly 80% of NORC survey respondents endorsed banning handgun purchases by youth under age 21. (See Table 1.)

The public also supports product safety measures designed to limit youth access to guns; in 1999, nearly 86% of survey respondents supported requiring that all new handguns be designed so that they "cannot be fired by a young child's small hands." And more than 76% believed that owners should be held liable if a gun is not stored properly and is misused by a child. (See Table 2 and the article by Hardy in this journal issue.)

In the aftermath of the 1999 school shootings at Columbine High School in Littleton, Colorado, and in other communities, large majorities of respondents also supported measures to reduce school violence. For example, nearly 74% endorsed having metal detectors and security guards in all middle and high schools.[9] People also mentioned "availability of guns" as the factor most to blame for the shootings.[10]

But the public does not favor banning guns from households with children. Instead, Americans are more likely to favor measures requiring the safe and secure storage of guns, as indicated in Table 2.

Parental Attitudes toward Gun Control

The NORC surveys found little difference between parents and nonparents when it comes to gun control issues. Parents are slightly more supportive of childproofing firearms; 69% of parents strongly favor mandatory childproofing of handguns, compared to 63% of adults without children in the home. Gun ownership does not vary by the presence of children in the household, however, and parenthood has surprisingly little impact on how people think about and use firearms. Parents and nonparents have similar responses to most questions dealing with children, such as gun-owner liability for children's misuse of unsafely stored guns or measures to restrict the use and ownership of guns by minors.

Parents, however, do remain concerned about their children's exposure to guns.[11] People with children under age 18 were asked if they would let their child "play in or visit" a house where a handgun is present: 70% said they would allow the visit if the handgun was both "unloaded and locked away," 33% if the handgun was "loaded but locked away," and 8% if the handgun was "loaded and not locked away." Not surprisingly, gun-owning parents are less opposed to their children being around guns than parents who do not own guns.[12]

Stability in Public Opinion toward Firearms Regulation

By and large, attitudes toward firearms regulation have shown great stability over the last 40 years. Gun control has been debated at the national level since the mid-1960s, so public opinion on gun control tends to be mature and not subject to large or sudden fluctuations or shifts. Except for a period in the late 1980s and early 1990s when support for gun control measures rose moderately, attitudes have generally remained stable over time.[13] Moreover, the little change that has occurred has tended to be back-and-forth, rather than a clear, long-term trend in one direction.

Two factors could account for the stability of these attitudes. First, gun control is a long-debated issue familiar to most people. Second, individuals' attitudes toward guns are shaped by prior experience with firearms, especially by an individual's exposure to guns while growing up and by the prominence of guns in the local community. These formative experiences may well fix people's attitudes toward guns and gun control.

The stability of public attitudes toward gun control can be seen clearly in public reaction to the mass shootings at Columbine High School in Littleton, Colorado, in April 1999. Many gun control advocates expected that Littleton would create a groundswell of support for stronger gun control measures, or at least for measures to restrict youth access to guns. Indeed, the Littleton shootings attracted a tremendous amount of media and public attention.[14]

That media coverage and public attention, however, did not translate into additional support for gun control laws. As Table 5 indicates, Littleton did increase the salience and importance of crime and gun violence in the public's mind. In the immediate aftermath of the shooting, respondents in public opinion polls became much more likely to mention crime in general or gun violence in particular as the most important problem facing the country.[15] Littleton also brought gun control to the top of people's minds, advanced its place on the political agenda,[16] and became a key factor behind the organization of the Million Mom March and other initiatives to pass gun control laws.[17]

Although Littleton may have motivated the majority of the American public who already support gun control laws, it did not change people's minds about how to address the problem of crime and gun violence. There is little indication that Littleton generally increased support for gun control in the short term and no sign that it did so after six months.[18] Thus, Littleton serves as a powerful example of how fixed Americans' views of gun control really are. Even a mass school shooting on live television did little to change people's views on this issue.

Conclusion

Short of prohibiting guns, Americans strongly favor most measures to regulate firearms. Even most gun owners believe that there should be a set of commonsense regulations to control firearms—just as automobiles are registered, drivers are licensed, and car sales are recorded and documented.

However, support for gun control has its limits. Most Americans oppose outright bans or severe limits on gun ownership. Moreover, a significant minority of Americans remain firmly opposed to many gun control policies, and opinions on gun control, whether for or against, tend to remain fixed over time. Regardless of how they feel about guns, Americans are unlikely to change their minds on the issue.

This finding may help explain why gun control policies have been slow to change, despite broad public support for tighter regulation of firearms. Although support for gun control is strong, it faces significant opposition, which has remained solid despite public events such as the Littleton shootings that some pundits thought would weaken pro-gun public opinion. The battle lines on gun control are well drawn and entrenched. It may be some time before there is significant movement on either side.

Table 5

Percentage of Public Ranking Guns and Crime as Most Important U.S. Problems/Issues: Pre- and Post-Littleton[a]

	Guns/Gun Control %	Crime/Violence %	Sample Size
Harris Poll (Top Issue)			
Before Littleton			
1/99	1	7	1,008
2/99	1	8	1,007
4/8/99–4/13/99	1	7	1,006
After Littleton			
5/14/99–5/19/99	10	19	1,010
6/99	9	14	1,006
8/99	9	13	1,008
Gallup (Top Problem)			
Before Littleton			
1/99	*	13	1,009
After Littleton			
5/23/99–5/24/99	10	17	1,050
CBS (Top Problem)			
Before Littleton			
1/30/99–2/1/99	–	6	1,058
4/13/99–4/14/99	–	4	878
After Littleton			
4/22/99	3	16	450
5/1/99–5/2/99	3	19	1,151

* = less than 0.5%
– = not listed as category

Source: Smith, T.W. *1999 National gun policy survey of the National Opinion Research Center: Research findings.* Chicago, IL: NORC, 2000.

[a] The Littleton shootings took place on April 20, 1999. For question wording and more information on these polls, see Smith, 2000.

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ENDNOTES

1. Dozens of public opinion polls over the last 20 years have documented public support for firearms regulation. See Smith, T.W. The 75% solution: An analysis of the structure of attitudes on gun control, 1959-1977. ***Journal of Criminal Law and Criminology*** (1980) 71(3):300–16; Stinchcombe, A.L., Adams, R., Heimer, C.A., et al. ***Crime and punishment: Changing attitudes in America***. San Francisco: Jossey-Bass, 1980; Wright, J.D. Public opinion and gun control: A comparison of results from two recent national surveys. ***The Annals, American Academy of Political and Social Science***. Thousand Oaks, CA: Sage Publications (May 1981) 455:24–39; Crocker, R. Attitudes toward gun control: A review. In ***Federal regulation of firearms***. Congressional Research Service, ed. Washington, DC: Government Printing Office, 1982; Tyler, T.R., and Lavrakas, P.J. Support for gun control: The influence of personal, sociotropic, and ideological concerns. ***Journal of Applied Social Psychology*** (1983) 13(5):392-405; Wright, J.D. Second thoughts on gun control. ***Public Interest*** (Spring 1988) 91:23–29; Kleck, G. ***Point blank: Guns and violence in America***. New York: Aldine de Gruyter, 1991; Mauser, G.A., and Kopel, D.B. "Sorry, wrong number": Why media polls on gun control are often unreliable. ***Political Communication*** (1992) 9(2):69–92; Kauder, N.B. One-gun-a-month: Measuring public opinion concerning a gun control initiative. ***Behavioral Sciences and the Law*** (1993) 11(4):353–60; Vernick, J.S., Teret, S.P., Howard, K.A., et al. Public opinion polling on gun policy. ***Health Affairs*** (Winter 1993) 12(4):198–208; Hemenway, D., and Azrael, D. Gun use in the United States: Results of a national survey. Unpublished paper. Harvard School of Public Health; Edel, W. ***Gun control: Threat to liberty or defense against anarchy***. Westport, CT: Praeger, 1995; Spitzer, R.J. ***The politics of gun control***. Chatham, NJ: Chatham House, 1995; Adams, K. Guns and gun control. In ***Americans view crime and justice: A national public opinion survey***. T.J. Flanagan and D.R. Longmire, eds. Thousand Oaks, CA: Sage, 1996; Blendon, R.J., Young, J.T., and Hemenway, D. The American public and the gun control debate. ***Journal of the American Medical Association*** (June 1996) 275(22):1719–22; Kleck, G. Crime, culture conflict and sources of support for gun control. ***American Behavioral Scientist*** (February 1996) 39(4):387–404; Schuldt, R., Judy, E., Hostetler, B., and McCool, M. Public opinion on allowing citizens to carry concealed handguns: The effect of question wording on majority opinion. Paper presented to the Midwest Association for Public Opinion Research. Chicago, IL, November 1997; Carter, G.L. ***The gun control movement***. New York: Twayne Publishers, 1997; Kates, D.B., Jr. Public opinion: The effects of extremist discourse on the gun debate. In ***The great American gun debate: Essays on firearms and violence***. D.B. Kates Jr. and G. Kleck, eds. San Francisco: Pacific Research Institute, 1997, pp. 94–122; Kleck, G. ***Targeting guns: Firearms and their control***. New York: Aldine de Gruyter, 1997; Public Policy Forum. ***Public opinion survey***. December 1997; Smith, T.W. ***1996 National gun policy survey of the National Opinion Research Center: Research findings***. Chicago, IL: NORC, March 1997; Bowie, A., Chorak, S., Guilbault, R., et al. ***Chicagoland gun study***. Chicago, IL: National Opinion Research Center, 1998; Frank N. Magid Associates. ***Iowans' attitudes towards guns and government regulation of guns—legislative summary***. Frank N. Magid Associates, October 1998; Harding, D.R., Jr. Public opinion and gun control: Appearance and transparence in support and opposition. In ***The changing politics of gun control***. J.M. Bruce and C. Wilcox, eds. Lanham, MD: Rowman and Littlefield, 1998, pp. 196–223; Peter D. Hart Research Associates. ***Parents, kids, and guns: A nationwide survey***. Peter D. Hart Research Associates, October 1998; Poll: Most Americans favor stricter gun laws. ***Yahoo! News***. May 27, 1998; Michigan Partnership to Prevent Gun Violence. ***Michigan statewide survey***. February 1998; Singh, R. Gun control in America. ***Political Quarterly*** (1998) 69(3):288–96; Smith, T.W. ***1997–98 National gun policy survey of the National Opinion Research Center: Research findings***. Chicago, IL: NORC, March 1998; Teret, S.P., Webster, D.W., Vernick, J.S., et al. Support for new policies to regulate firearms. ***New England Journal of Medicine*** (September 17, 1998) 339(12):813–18; and Smith, T.W. ***1998 National gun policy survey of the National Opinion Research Center: Research findings***. Chicago, IL: NORC, March 1999.

2. This report utilizes data primarily from (1) the 1999 National Gun Policy Survey (NGPS-99), (2) the 1998 National Gun Policy Survey (NGPS-98), (3) the 1997–1998 National Gun Policy Survey (NGPS-97), (4) the 1996 National Gun Policy Survey (NGPS-96), and (5) the 1972–1998 General Social Survey (GSS) conducted by the National Opinion Research Center (NORC) at the University of Chicago. The NGPSs were designed in collaboration with the Center for Gun Policy and Research at The Johns Hopkins University with funding from the Joyce Foundation. The NGPS-96, NGPS-97, NGPS-98, and NGPS-99 are national, random-digit dial telephone surveys of adults living in households with telephones. Data were collected September 13 to November 11, 1996; November 8, 1997, to January 27, 1998; September 10 to November 15, 1998; and September 9 to December 4, 1999, respectively. Analysis used a weight that adjusted for age, gender, race, education, and region according to U.S. Census figures. Full technical details on the NGPSs appear in Haggerty, C.C., and Shin, H. ***1996 National gun policy survey: Methodology report***. Chicago, IL: National Opinion Research Center, January 1997; Woolley, R., Kuby, A.M., and Shin, H. ***1997/1998 National gun policy survey: Methodology report***. Chicago, IL: National Opinion Research Center, 1998; Kuby, A.M., Imhof, L., and Shin, H. ***Fall 1998 National gun policy survey: Methodology report***. Chicago, IL: National Opinion Research Center, 1999; and Kuby, A.M., Imhof, L., and Shin, H. ***Fall 1999 National gun policy survey: Methodology report***. Chicago, IL: National Opinion Research Center, 2000. The GSSs are in-person interviews of adults living in households in the United States. The latest data were collected in February to May 1998. Full technical details are presented in Davis, J.A., Smith, T.W., and Marsden, P.V. ***General social surveys, 1972–2000: Cumulative codebook***. Chicago, IL: National Opinion Research Center, 2001. Supplemental data from various state and national polls are also employed in this article and are cited when used.

3. See note no. 1, Carter, p. 49.

4. Support for a ban on manufacturing increases from 54% to 58% when the descriptor "often known as Saturday night specials" is added. For full question wording, see Smith, T.W. ***1999 National gun policy survey of the National Opinion Research Center: Research findings***. Chicago, IL: NORC, 2000. The difference is not statistically significant at the .05 level. For the meaning and use of the term "Saturday night special," see Oliver, C. A new way to control crime? 'Saturday night specials' bans haven't worked. ***Investor's Business Daily***, February 6, 1996, at A1.

5. There are 19 separate percentages in Table 1 but only 11 distinct items from the 1999 National Gun Policy Survey.

6. There are 16 questions in Table 2 but only 11 involving separate items asked of everyone on the 1999 National Gun Policy Survey.

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7. Nine percent feel that shall-issue laws make communities neither more nor less safe, and 3% do not know or have no answer.

8. See note no. 4, Smith, and note no. 1, Smith (1997).

9. A Gallup poll on April 21, 1999, judged the following measures as very effective "as a way to stop violence in high schools and middle schools": stricter gun control laws for teenagers (62%), increased counseling for teenagers (60%), metal detectors in schools (53%), stricter regulation of violence on TV and in movies (52%), restrictions on what is available to teenagers on the Internet (50%), holding parents legally responsible for crimes their children commit with their parents' guns (47%), school dress codes (36%), random body searches of students (34%), and stiffer penalties for parents whose children commit crimes (34%). See Saad, L. Columbine could cast long shadow over 2000 election. *Gallup poll release*. Princeton, NJ: Gallup Organization, June 9, 1999.

10. The following were blamed a great deal for "causing shootings like the one in Littleton": availability of guns (60%); parents (51%); TV programs, movies, and music (49%); social pressures on youth (43%); media coverage of similar incidents (34%); the Internet (34%); and schools (11%). See note no. 9, Saad; and Newport, F. Public continues to believe a variety of factors caused Littleton. *Gallup poll release*. Princeton, NJ: Gallup Organization, May 13, 1999.

11. For information on parents and guns, see note no. 1, Peter D. Hart Research Associates. For information on the safe storage of firearms, see Weil, D.S., and Hemenway, D. Loaded guns in the house: An analysis of a national random survey of gun owners. *Journal of the American Medical Association* (1992) 267(22):3033–37; and Hemenway, D., Solnick, S.J., and Azrael, D.R. Firearm training and storage. *Journal of the American Medical Association* (1995) 273(1):46–50.

12. Of parents who personally own a gun, 3% do not want their child to visit a household with a locked and unloaded handgun, 41% object if the handgun is loaded but locked away, and 77% are opposed if the handgun is loaded and unlocked. For parents without guns in their household, opposition is respectively 42%, 75%, and 95%. Similarly on NGPS-97, having a visitor with a gun in one's home is opposed by 44% of those personally owning guns, 68% of those who do not personally own a gun but have one in the home, and 72% of those without guns.

13. See note no. 1, Stinchcombe, et al, Smith (1980); and Smith (1997).

14. The Columbine killings in Littleton, Colorado, garnered the third-highest number of minutes in evening network news coverage in 1999, behind only the war in Kosovo and the President Clinton scandal/impeachment. See TV news. *Time* (December 27, 1999) 54(26):36. Also, The Pew Research Center for the People and the Press found Littleton to be the third top news event of the 1990s, with 68% of the public reporting that they were following the story "very closely," behind only the Rodney King verdict in 1992 (70%) and the crash of TWA flight 800 in 1996 (69%). See The Pew Research Center for the People and the Press. *Record news interest in Littleton shooting*. Washington, DC: The Pew Research Center for the People and the Press, September 22, 1999. Available online at http://www.people-press.org/shooting.htm.

15. Poll responses on problem salience in the last half of 1999 and the first half of 2000 then showed a decline in public concern about and attention toward crime and violence in general and guns in particular.

16. Connolly, C. Littleton alters the landscape of debate on guns. *Washington Post*. May 5, 1999, at A3; Crowder, C. Gun control opinions unchanged. *Denver Rocky Mountain News*. May 20, 1999, at 5A; Farragher, T. Support seen rising in Congress for gun-control bill. *Boston Globe*. April 23, 1999, at A22; Lester, W. Shootings shift view of guns. *Boston Globe*. May 6, 1999, at A4; and Neikirk, W. Congress resisting push for gun control. *Chicago Tribune*. November 5, 1999, at Sect. 1, p. 13.

17. Bai, M. Don't mess with the moms. *Newsweek* (May 15, 2000) 135(20):28; Simon, R., and Anderson, N. Mothers march against guns. *Los Angeles Times*. May 15, 2000, at A1; and Toner, R. Mothers rally to assail gun violence. *New York Times*. May 15, 2000, at A1.

18. See note no. 4, Smith; Newport, F. Public continues to believe a variety of factors caused Littleton. *Gallup poll release*. Princeton, NJ: Gallup Organization, May 13, 1999; Gillespie, M. New gun control efforts draw mixed support from Americans. *Gallup poll release*. Princeton, NJ: Gallup Organization, July 13, 1999; Newport, F. Before Colorado tragedy, Americans were becoming slightly less favorable towards gun control. *Gallup poll release*. Princeton, NJ: Gallup Organization, April 22, 1999; Newport, F. Fort Worth shootings again put focus on gun control. *Gallup poll release*. Princeton, NJ: Gallup Organization, September 17, 1999; Newport, F. Gun control support increases modestly in wake of Littleton tragedy. *Gallup poll release*. Princeton, NJ: Gallup Organization, May 3, 1999; and Newport, F. Teenagers and adults differ on causes, cures for Columbine-type situations. *Gallup poll release*. Princeton, NJ: Gallup Organization, May 21, 1999.

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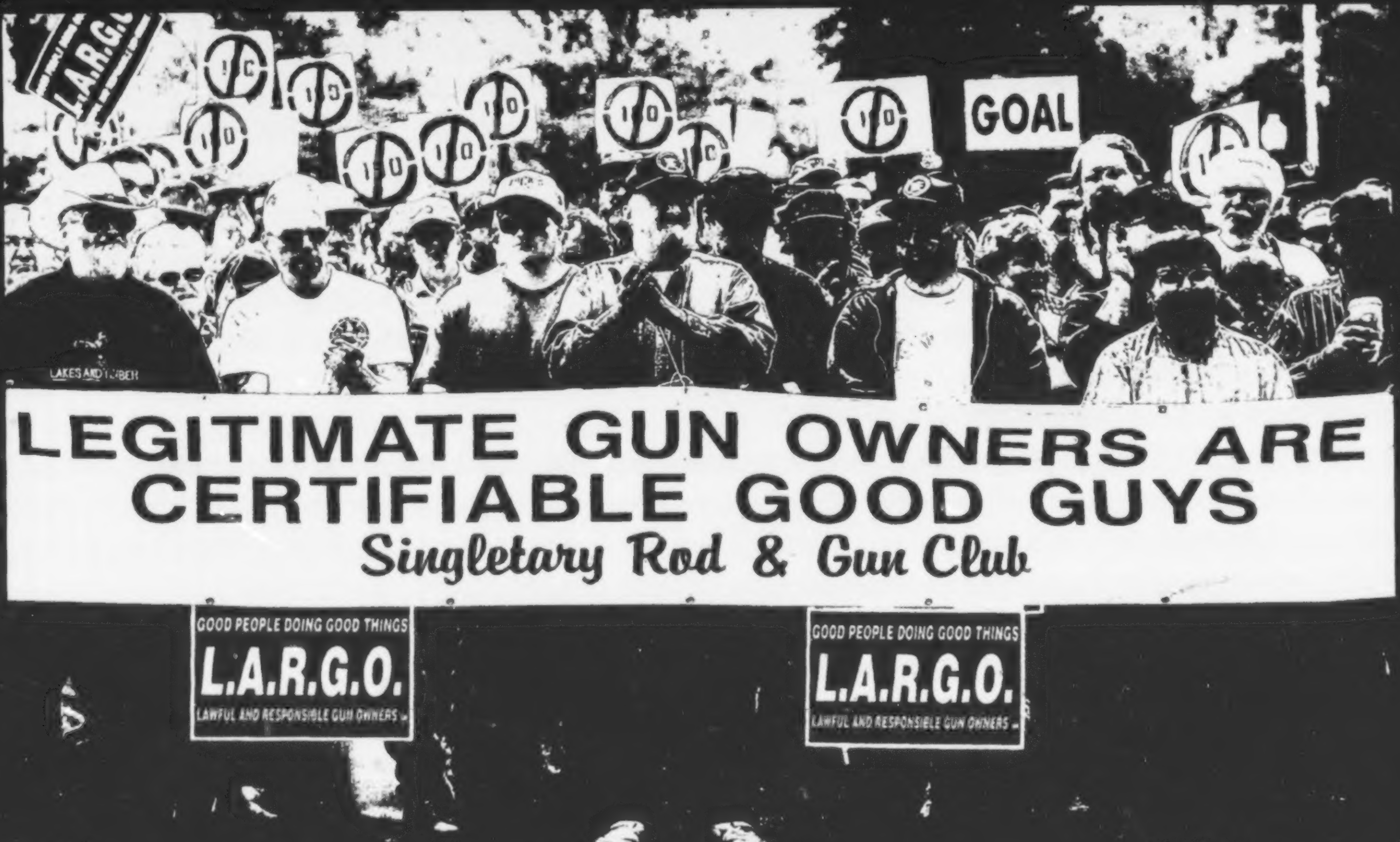
L.A.R.G.O.
GOAL
LEGITIMATE GUN OWNERS ARE CERTIFIABLE GOOD GUYS
Singletary Rod & Gun Club
GOOD PEOPLE DOING GOOD THINGS
L.A.R.G.O.
LAWFUL AND RESPONSIBLE GUN OWNERS
GOOD PEOPLE DOING GOOD THINGS
L.A.R.G.O.
LAWFUL AND RESPONSIBLE GUN OWNERS

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Children and Guns: Advocacy Groups Speak Out

James Forman, Jr.

When gun control and pro-gun advocacy groups talk about children and guns, the images they describe could not be more different. Josh Sugarmann, executive director of the Violence Policy Center, a leading national gun control group, tells the story of two-year-old Kaile Hinke from Fort Myers, Florida, who was shot in the chest by her three-year-old brother Colton. According to Sugarmann, "Colton found the loaded .25-caliber pistol in a drawer in his parents' bedroom, where he and Kaile were playing while their mother was in another room. Kaile was driven to Lee Memorial Hospital where she was pronounced dead."[1]

Erich Pratt, communications director for Gun Owners of America, paints a very different picture, describing Jessica Carpenter, a California 14-year-old who was baby-sitting her younger siblings when a pitchfork-wielding assailant invaded their home. "Having been trained by her father, Jessica knew how to use a firearm. There was just one problem: The household gun was locked up in compliance with California state law."[2] Accordingly, said Pratt, "Jessica had few options. She could not call 911 because the intruder had cut the phone lines to the house. She could not protect herself, for state officials had effectively removed that possibility. Her only option was to flee the house and leave her siblings behind." Jessica survived, but her two younger siblings did not.

"Advocates are so far apart on this issue that even when they imagine the same kid, their gut reactions are totally different," said David Kopel, research director at the Denver-based pro-gun Independence Institute. Kopel gave an example: "a 13-year-old kid who says he wants to go out to the nearby field and shoot some cans. The pro-gun folks think that's great; let's make this happen. It's an idyllic picture. The anti-gun people are horrified: a kid with a gun—and unsupervised, too. That's even worse."

This article addresses the issue of child and youth access to guns from the perspective of advocates on both sides of the gun debate. It is based on telephone interviews with 29 pro-gun and gun control advocates, conducted between September and December 2001. Two questions frame the inquiry. First, to what extent do advocates believe that young people's access to guns is problematic? Second, if gun access is a problem, what solutions do advocates on each side of the debate endorse? As this article makes clear, although gun control groups unanimously believe that easy access to firearms by children and youth is a problem, the responses they propose vary depending on regional and philosophical differences.

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Most gun control advocacy groups view public awareness about the risks guns pose to children as central to their advocacy.

Pro-gun groups, for their part, generally do not believe that youth access to guns is problematic. To the extent that they see it as a concern, they define the problem much more narrowly than do gun control groups.

Advocates for Stronger Controls

Gun control advocacy groups are unanimous in their belief that access to guns is a major cause of youth violence. They differ, however, in the approaches they take toward limiting youth access to guns, with political and geographic considerations playing key roles in their strategies.

The Extent of the Problem

Bryan Miller, executive director of Ceasefire New Jersey, reflected the views of gun control advocates interviewed for this article when he said, "Every category of gun deaths for kids is a problem, whether you're talking about accidents, suicides, or homicides. And every category of kid is a problem, too, whether you're talking about toddlers or teenagers."

Jill Ward, director of Violence Prevention and Youth Development at the Children's Defense Fund (CDF), agreed. "Access is a huge problem. We understand that if a child is killed and a firearm is involved, there are a host of causes that contributed to that death—it could be a troubled family, troubled child, etcetera. But we also know that no matter what else has happened, the presence of a gun makes any situation more lethal. So in that sense, access to guns is critical."

Strategies for Reducing Youth Gun Violence

Gun control advocacy groups differ regarding how best to curb youth access to guns. In part, their approaches reflect varied assessments of what is politically possible. According to Ward, "We support a whole range of legislative initiatives, but we are trying to maximize those issues that are most viable right now. Our priorities are governed by politics." Regional differences also help to determine both what is appropriate and what is politically feasible. "Gun reform law is a regional issue, and what you push for is going to depend on where you live," said Gerry Anderson, executive director of Arizona's Halt Gun Violence. "We're a rural state with a lot of gun owners, and what we need may be different from what makes sense in New Jersey." Several strategies for reducing youth gun use are popular across groups, however, including public awareness and education, legislative advocacy, and investment in youth at risk for gun violence.

Public Awareness and Education

Most gun control advocacy groups view public awareness about the risks guns pose to children as central to their advocacy. For the CDF's Ward, "Public awareness is critical. People need to know how many kids are killed and injured by guns." In particular, CDF focuses on raising public awareness about gun suicides among youth, "because they have not declined nearly as rapidly as accidental shootings," said Ward. "And we know that if kids cannot get guns, they will be less successful if they attempt to kill themselves. Without a gun, that troubled kid might have a second chance."

Public awareness also plays an important role in state-level organizations, especially those in areas where gun ownership is high. Bruce Gryniewski, executive director of Washington Ceasefire, echoed the views of many state-level advocates when he said, "We do have legislative priorities, but it is so hard to make any headway legislatively that we tend to focus on awareness." State groups that focus on public awareness use traditional organizing methods, said Jonathan Wilson, outreach coordinator for North Carolinians Against Gun Violence. According to Wilson, "We hand out literature, balloons, brochures, you name it, all spreading the message that we should 'protect children, not guns' and that the safest homes are gun-free homes."

Closely related to the public awareness campaigns of gun control advocates are their educational programs, most of which currently focus on promoting "safe storage" of guns—the message that parents who own guns should store them locked, unloaded, and out of children's reach. "Once you have convinced people that guns can be dangerous to kids, the next step is talking to them about whether they should have a gun and, if they do, how they can store it safely," said Diana

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Madarieta, executive director of Ceasefire Oregon. Madarieta pointed out that 51% of homes in Oregon contain a gun, and she does not think that number is likely to decline. Therefore, she said, "safe storage is the key issue when talking about kids. We own guns in my house, but the guns and ammunition are locked. We try and educate people by talking to them about whether they are really safer having a gun and then teaching them about safe storage of that gun if they choose to have one."

Legislative Advocacy

Most gun control advocacy groups complement their public awareness and education efforts with a legislative agenda targeted at reducing youth access to guns, with specific legislative initiatives varying significantly from state to state. Some of these legislative efforts—such as proposals to mandate background checks for all gun purchases or gun owner licensing and gun registration—aim to reduce youth gun violence by making it more difficult for young people and criminals to obtain guns illegally. (See the article by Wintemute in this journal issue.) Many advocacy groups also push for enacting or strengthening Child Access Prevention (CAP) laws, which impose criminal penalties on adults who store firearms negligently if children later access and use them. Despite mixed data on the effectiveness of CAP laws in preventing gun deaths among children and youth (see the article by Hardy in this journal issue), many gun control advocates view CAP laws as important additions to safe-storage education. They argue that when the government mandates behavior change, people tend to listen. Said the CDF's Ward, "Many people wear seatbelts now because the government has said you need to do this to be safe, and if you don't, you can be penalized. Laws requiring safe storage of guns around kids are the same."

Some gun control advocates also have seized on technological innovations to push for legislation that would require the sale of "childproof guns." (See the article by

Teret and Culross in this journal issue.) On a state level, one of the most vocal advocates for childproof guns is New Jersey's Miller. According to Miller, "Technology is the answer. The gun industry has the ability to make guns that will not operate in the hands of children or other nonauthorized users." Perhaps reflecting regional differences, however, other gun control advocates are less sure about the future of childproof guns. "I think we need more research before we jump on the smart technology bandwagon," argued Oregon's Madarieta. Said Arizona's Anderson, "We're not pushing for a law requiring childproof-only guns here, and I'm not sure the market or the technology is there yet."

Investment in Youth at Risk of Gun Violence

Another segment of the gun control movement works directly with at-risk youth and communities to reduce gun violence. "Our approach to juvenile violence is radically different from others in the gun control movement," said Edyie Andrews, education director at The Educational Fund to Stop Gun Violence (EFSGV). "We aim our education efforts at kids, not adults, but we don't try to scare kids." Instead, Andrews believes the key is "talking to kids and focusing on the positive things they are doing. Show them that most young people aren't carrying [guns]." The EFSGV visits housing projects, community centers, and schools to recruit students who are interested in addressing gun violence in their neighborhoods. According to Andrews, "We support students in organizing themselves. Some students want to do poster contests, some a book of poetry, some a press conference."

Another gun violence prevention group that works directly with youth is Youth ALIVE! in Oakland, California. According to Program Director Nic Bekaert, Youth ALIVE!'s Caught in the Crossfire program takes its message directly to youth hospitalized with gun injuries. "When kids have just been shot and are in the hospital, they are wide open to suggestions for how to deal with their lives," said Bekaert. Youth ALIVE!'s staff members, many of whom were themselves formerly involved in gun violence and the drug trade, develop one-on-one mentoring relationships with young victims of violence to help prevent future violence. Comprehensive support services follow, including efforts to get youth back in school and employed. Although it focuses on victims of gun violence, Youth ALIVE! knows that it is dealing with perpetrators at the same time. As Bekaert said, "There is so much overlap between these different groups. Any place you choose to enter the cycle of violence you will find the same kids."

Approaches like those of EFSGV and Youth ALIVE! are endorsed by gun control supporter Mike Males, who has criticized some traditional gun control groups for buying into "a climate of demonizing kids by portraying them as violent threats in our midst." Males argued that negative images of youth lead to punitive criminal justice policies, including laws that allow juveniles to be tried as adults if a weapon is involved. "As long as adults have access to guns, kids will have access, too, and gun control groups are fooling themselves if they think otherwise," said Males.

The real issue, said Males, is "that if you drive from Santa Barbara to Bakersfield [California], it's a $1\frac{1}{2}$-hour drive, but the black kids in Bakersfield have a death rate that is 40 times higher than the white kids in Santa Barbara." Males' solution to juvenile violence "involves comprehensive efforts to reduce youth poverty and unemployment" and "increasing access to quality education and jobs."

Advocates for Gun Rights

Pro-gun groups generally disagree with the gun control groups who view youth access to guns as a key factor in youth violence. However, some pro-gun advocates do endorse strategies for reducing children's unsupervised access to guns.

The Extent of the Problem

Many pro-gun advocates agree with Joe Waldron, executive director of the Bellevue, Washington-based Citizens Committee for the Right to Keep and Bear Arms (Citizens Committee), who said, "Access to guns has nothing to do with juvenile violence." Pro-gun advocates point to the fact that homicides make up the majority of child gun deaths. Homicide rates are "lower in rural areas, where gun ownership and training are highest, than in the inner city, where ownership rates are lower," said Waldron.

Gun advocates generally believe that youth gun violence is a problem rooted in culture, not in access to

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guns. According to Larry Pratt, executive director of Gun Owners of America, "Juvenile violence is not a result of kids' access to guns, but stems from the failure of our culture to give kids a sense of individual responsibility and respect for human life."

Pro-gun advocates tend to define youth gun violence primarily in terms of youth gun homicide. In response to specific questions about suicide, pro-gun advocates argued that attentive parenting, not restricted access to guns, is the appropriate response. Accidental shootings, which constitute the third category of youth gun deaths, are the one type of child gun violence that pro-gun advocates uniformly say relates to access. Although these advocates generally believe that the number of accidental deaths is too small to warrant substantial attention, they do support targeted educational programs aimed at reducing this category of deaths.

Strategies for Reducing Youth Gun Violence

Although they do not view guns as a significant underlying cause of youth violence, pro-gun groups do promote some measures aimed at reducing unsupervised access to guns by children and youth, especially educational programs for young children, adolescents, and adults. Some pro-gun advocates also endorse safe-storage programs and increased investments in youth at risk for gun violence, although these positions have generated controversy within the gun rights community.

Education and Training Efforts

To address the problem of accidental death and injury when young children access guns, pro-gun advocates uniformly endorse the National Rifle Association's (NRA's) Eddie Eagle Gun Safety Program. Aimed at children from prekindergarten through sixth grade, Eddie Eagle has one simple message, said NRA spokesperson Nance Pretto-Simmons: "If you see a gun, stop, don't touch, leave the area, and tell an adult." Eddie Eagle was developed under Marion Hammer's leadership at the NRA, and Hammer credits it for the nationwide reduction in gun accidents. So too does the Citizens Committee's Waldron, who said gun education programs must work "to demystify guns by dispelling the mysterious and rebellious characteristics attached to guns by contemporary culture." (For a discussion of Eddie Eagle and other gun avoidance programs, see the article by Hardy.)

Although it has long been the most prominent educational program sponsored by the pro-gun lobby, Eddie Eagle is not alone. The National Shooting Sports Foundation (NSSF) has developed a video series for teenagers who are too old for Eddie Eagle. The videos feature various scenarios in which teens are forced to make decisions when confronted with unsafe gun practices. In one, a student who learns that a classmate has brought a gun to school is encouraged to tell a teacher. In another, one teen starts playing with his father's gun in front of his friends, and the message is that kids should leave the house immediately and tell an adult. Gary Mehalik of the NSSF said that the video series "help[s] kids learn how to get out of dangerous situations." This message is more important today then ever before, he noted, because so many kids now learn about guns from unreliable sources. "It is one thing for [kids] to form their opinions about guns from a father, uncle, or scoutmaster. If they come from a community that uses and respects guns, they will understand how to act with a gun. But if they are learning about guns from action movies and [video games like] *Doom*, they are learning to do things that are unsafe."

Pro-gun advocates also point to the importance of educating parents, especially when it comes to combating firearm suicides by teens. Although pro-gun advocates disagree about the extent to which kids' access to guns is related to the incidence of teen suicide, none deny the relationship entirely. "The suicide issue is the one place where the gun control people are at least plausible on a common-sense level," said the Independence Institute's Kopel. But while pro-gun advocates concede that access to guns may be a factor in youth suicide, they do not believe that the restrictions suggested by gun control advocates will deter a suicidal teen. According to most pro-gun advocates, suicidal teens who encounter a locked gun will either disable

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Although pro-gun advocates are divided on the efficacy of trigger locks and other safe-storage mechanisms, they are unanimous in their condemnation of any legislation mandating such devices.

the lock, find another gun, or kill themselves another way. "If somebody is bound and determined to do something harmful," said the NSSF's Mehalik, "they will do it no matter how many roadblocks we put in the way."

The real solution, say pro-gun advocates, is not to limit access to firearms, but to help parents, teachers, and other adults understand the warning signs for adolescent suicide. "The only way to reduce teen suicide is to educate parents on spotting depression," said the Citizens Committee's Waldron. If parents are properly educated, they will react appropriately, he argued. Paul Blackman, the NRA's research coordinator, concurred. "I know a real gunner; this guy walked me through his house and showed me a loaded gun in every room," he said. "But you can be sure that the day his kid showed suicidal tendencies, he took each and every one of those guns and locked them up."

Pro-gun advocacy groups complement their education efforts for younger children with training for teenagers. The NRA's Blackman believes that education and supervised access to guns lead to responsible gun use among adolescents, whereas unsupervised access often leads to accidents and violence. Who is competent to provide the training and at what age a child is ready to be unsupervised with a gun are issues that "vary from circumstance to circumstance," said Blackman. The NSSF's Mehalik agreed that it is impossible to have ironclad rules about the appropriate age of the trainer or trainee: "In general, I would say that if a child is involved, the supervisor should be an adult, but an older teen would be a fine trainer if well-initiated. Look, there are 15-year-old Olympic shooters that would be great supervisors. The point is that the mentor should be mature and knowledgeable about guns."

The NSSF believes that training is critical for any uninitiated gun user, regardless of age. According to the NSSF, a proper training course includes a comprehensive introduction to firearms safety and basic use, including the ethics of firearms use. (For a discussion of research surrounding gun safety training programs, see the article by Hardy.)

Safe Storage and Trigger Locks

There is less unanimity in the pro-gun movement concerning the issue of safe gun storage. In 1999, the NSSF joined President Bill Clinton's Justice Department in launching Project HomeSafe, which distributed gun locks and promotional literature to encourage safe storage. According to the NSSF's Mehalik, "The gun industry has long believed that guns should be kept safely in the home. To us, this means that whenever the gun is not under your control, it should be made safe. There are many ways to do that, but by distributing gun locks, we are offering one low-cost alternative to gun owners."

According to the Independence Institute's Kopel, the pro-gun community is divided on trigger lock initiatives such as Project HomeSafe. "Some support them, some believe they won't do much but are harmless, and others believe that they are a pernicious effort to promote unsafe storage practices," he said. The "unsafe practices" cited by some pro-gun advocates include improper installation of trigger locks, which could lead to accidental shootings, and reduced self-defense efficacy of a locked gun. John Velleco, spokesperson for the Gun Owners of America, argued that "trigger locks will lead to more deaths than they would prevent." They "strike at the very heart" of one's right to self-defense, said Velleco, because they cut down on the gun user's response time in an emergency.[3]

Others questioned the motives of those who support Project HomeSafe, suggesting that the industry is acting voluntarily to reduce the threat that trigger locks will be made mandatory. "Let's face it, this is a gimmick," said the NRA's Blackman. "Trigger locks work in the sense of public relations, in that they might prevent more serious legislative activity. But they won't really stop somebody who is serious about getting to the gun."

Although pro-gun advocates are divided on the efficacy of trigger locks and other safe-storage mechanisms,

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they are unanimous in their condemnation of any legislation mandating such devices. "The pro-gun community uniformly views safe-storage mandate laws as a threat," said Kopel—compromising what is, in its view, an unrestricted right to keep and bear arms.

Investment in Youth at Risk of Gun Violence

As noted previously, many pro-gun advocates argue that because most youth gun homicides occur among urban youth, the real problem lies in inner-city communities, not in gun use. Nonetheless, few are working toward solving the problems of the inner city. Typical was the reaction of the Citizens Committee's Waldron, who stated that inadequate after-school supervision of inner-city children was a principal cause of youth gun violence. When asked if he supported any specific interventions such as increased funding for after-school programs, Waldron said, "I'm not signing up for midnight basketball... because that's not going to turn a gangbanger into a model citizen."

One exception was the Independence Institute's Kopel. According to Kopel, neither side offers appropriate solutions to urban youth violence. "The pro-control camp addresses inner-city gun violence by regulating access," he said, whereas "the pro-gun camp argues for harsher penalties for illegal gun possession and greater prohibitions on gang membership." These proposals will not solve the problem, he argued. Instead, society should be debating more comprehensive solutions, including "massive government jobs programs," "urban enterprise zones," "charter schools," or his preferred intervention, "early childhood education programs that are expensive but proven effective."

Kopel disagreed with those who would suggest that his far-reaching proposals might complement, rather than replace, gun control. "On a theoretical level, it doesn't have to be one or the other. But the political reality is that no group can push 27 ways at once. You must prioritize, and when you do, you necessarily leave something off the agenda." Moreover, he argued, "There is a real problem of advocates letting the politicians off the hook. I mean, we have kids killing kids…so [legislators] enact meaningless access restrictions or increased possession penalties. If advocates allow them to say they've done something, then we've let them off the hook. There is less pressure for them to do something real."

Conclusion

Perhaps the only thing gun control and pro-gun advocates agree on is the difficulty they have in finding common ground. Although alliances do occasionally occur, both sides agree that most often they are bitter adversaries. "We are diametrically opposed to the gun control advocates on almost all points," said Mehalik, whose NSSF is considered more moderate than some gun rights groups.

In states where gun ownership rates are high, the standoff tends to hurt gun control groups more than it does pro-gun groups, according to Oregon's Madarieta, because "we won't get anything passed unless the gun owners support it." Despite polls that show public support for many of their positions (see the article by Smith in this journal issue), gun control groups are clearly operating at a disadvantage on a national level as well. *Fortune* magazine rated the NRA as the most powerful Washington lobbying group in 2001, replacing the American Association of Retired Persons.[4] Similarly, the watchdog organization Open Secrets reports that since 1990, gun rights groups have outspent gun control groups 13 to 1 in soft money, political action committees, and individual contributions.[5]

Given this political reality, it is not surprising that some gun control advocates, such as Madarieta, suggest that "more and more we're looking for common ground." Nor is it surprising—given the dramatic difference in perceptions of youth gun violence—that they are having trouble finding it.

ENDNOTES

1. Sugarmann, J. *Every handgun is aimed at you: The case for banning handguns.* New York: The New Press, 2001.
2. Pratt, E. When gun safety locks kill. Available online at http://www.gunowners.org.
3. No advocates on either side of the issue were aware of statistical data regarding whether or how often trigger locks or other gun safety devices denied gun owners the opportunity to defend themselves.
4. Birnbaum, J. Fat and happy in D.C. *Fortune.* May 28, 2001. Downloaded from http://www.fortune.com on February 28, 2002.
5. Center for Responsive Politics. Gun control vs. gun rights. Washington, DC: CRP, February 6, 2001. Downloaded from http://www.opensecrets.org/news/guns/index.htm on February 28, 2002.

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Major Federal Firearm Laws (Still in Effect), 1934–1999

Title	U.S. Code Section	Effective Date	Summary
National Firearms Act	26 U.S.C. § 5801 et seq.	1934	Among the law's provisions: ▷ Requires certain weapons, such as sawed-off shotguns and machine guns, to be registered. ▷ Requires a transfer tax to be paid upon sale of these guns.
Gun Control Act of 1968	18 U.S.C. § 921 et seq.	10/22/68 and 12/16/68	Basic gun control law in the United States. Among the law's many initial provisions: ▷ Requires a license for gun dealers, manufacturers, and importers. ▷ Prohibits gun purchase or possession by certain persons, such as convicted felons. ▷ Prohibits handgun sale by licensed dealers to persons under age 21. ▷ Prohibits long-gun sale by licensed dealers to persons under age 18. Most other federal gun laws are codified as amendments to the Gun Control Act.
Firearm Owners Protection Act	18 U.S.C. § 921 et seq. (scattered sections)	11/15/86	Among the law's several provisions: ▷ Forbids the federal government from establishing any "system of registration of firearms, firearm owners, or firearms transactions or distributions…" (18 U.S.C. § 926(a)(3)). ▷ Places certain limits on the ability of the U.S. Bureau of Alcohol, Tobacco and Firearms to inspect the premises and records of licensed dealers (18 U.S.C. § 923(g)). ▷ Includes a ban on the possession or transfer of a machine gun that was not lawfully owned prior to May 19, 1986 (18 U.S.C. § 922 (o)).
Gun-Free School Zones Act of 1990	18 U.S.C. § 922 (q)	1/30/91 (initial version)	▷ Forbids, with exceptions, possession of a firearm in a school zone. The U.S. Supreme Court declared the law unconstitutional on 4/26/95 (*U.S. v. Lopez*, 514 U.S. 549). The law was re-enacted in a substantially similar form but with a new requirement related to interstate commerce, effective 9/30/96.

Title	U.S. Code Section	Effective Date	Summary
Brady Handgun Violence Prevention Act	18 U.S.C. §§ 922 (s)-(u)	2/28/94 11/30/98	▸ Required states to conduct background checks for handgun purchases if state law did not already provide for a background check. ▸ Instituted maximum 5-day waiting period in those states to allow time for the check. ▸ Increased the cost of obtaining a federal firearms license. The U.S. Supreme Court provision declared the background check unconstitutional on 6/27/97 (*Printz v. U.S.*, 521 U.S. 898). Most states continued background checks voluntarily. The waiting period was replaced by a national instant background check system (NICS), instituted for both handguns and long guns, on 11/30/98.
Violent Crime Control and Law Enforcement Act of 1994	18 U.S.C. § 922 (scattered sections)	9/13/94	▸ Institutes age 18 as the minimum age to purchase or possess handguns or ammunition for handguns only, subject to limited exceptions (18 U.S.C. § 922 (x)). ▸ Prohibits manufacture, transfer, or possession of semi-automatic assault weapons. Applies only to those firearms that meet the definition of an assault weapon and that were not lawfully possessed prior to 9/13/94 (18 U.S.C. § 922 (v)). ▸ Prohibits transfer or possession of large capacity ammunition feeding devices unless lawfully owned prior to 9/13/94 (18 U.S.C. § 922 (w)). ▸ Prohibits persons subject to certain domestic violence restraining orders from purchasing or possessing firearms. (18 U.S.C. § 922 (g)(8)).
Gun Ban for Individuals Convicted of a Misdemeanor Crime of Domestic Violence: Lautenberg Amendment	18 U.S.C. §§ 922(d)(9), (g)(9), (s)(3)(B)(1)	9/30/96	▸ Adds a "misdemeanor crime of domestic violence" to the list of categories of persons proscribed from gun purchase or possession.

Source: Vernick, J.S., and Hepburn, L.M. Examining state and federal gun laws: Trends for 1970–1999. In *Evaluating gun policy.* P.J. Cook and J. Ludwig, eds. Washington, DC: Brookings Institution Press, in press. Reprinted with permission by the Brookings Institution Press.

List of Acronyms

AAP	American Academy of Pediatrics
ATF	U.S. Bureau of Alcohol, Tobacco and Firearms
CAP	Child Access Prevention
CDC	Centers for Disease Control and Prevention
CPSC	U.S. Consumer Product Safety Commission
EFSGV	Educational Fund to Stop Gun Violence
FBI	Federal Bureau of Investigation
FISS	Firearm Injury Surveillance System
GAO	U.S. General Accounting Office
NCHS	National Center for Health Statistics
NICS	National Instant Criminal Background Check System
NORC	National Opinion Research Center
NRA	National Rifle Association
NSSF	National Shooting Sports Foundation
NVISS	National Violent Injury Statistics System
PTSD	Posttraumatic Stress Disorder
SHR	Supplementary Homicide Reports
UCR	Uniform Crime Reports

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Children, Youth, and Gun Violence: Analysis

Each year, more than 20,000 children and youth under age 20 are killed or injured by firearms in the United States. The lethality of guns, as well as their easy accessibility to young people, are key reasons why firearms are the second leading cause of death among young people ages 10 to 19. Only motor vehicle accidents claim more young lives.

A majority of youth gun deaths are homicides. Suicides account for about one-third of all youth gun deaths, and unintentional shootings for about 7% of those deaths. Older teens, males, African American and Hispanic youth, and young people residing in urban areas are at particularly high risk for gun homicide; white adolescents, males, and youth living in rural areas are at highest risk for gun suicide.

Recent research estimates the economic costs of gun violence against children and youth at $15 billion per year. Studies suggest that children exposed to gun violence at home, at school, in the community, or through the media can experience negative psychological effects including posttraumatic stress, poor school performance, increased delinquency, risky sexual behaviors, substance abuse, and desensitization to violence. All of these effects can make children and youth more prone to violence themselves.

To reduce youth gun violence, four strategies are key:

- **Reducing children's unsupervised exposure to guns.** Research indicates that educational efforts aimed at persuading children and youth to stay away from guns or behave responsibly around them are of limited effectiveness. Therefore, parents must protect children from unsupervised exposure to guns through careful parental monitoring and, if they choose to keep guns in the home, by storing guns locked, unloaded, and separate from ammunition.
- **Engaging communities and strengthening law enforcement.** Although research in this area is limited, available evidence suggests that community leaders can promote young people's safety by sending unequivocal messages to youth that gun violence is not an acceptable way to resolve conflict. Law enforcement agencies can partner with community leaders in this effort through community-based policing approaches, which emphasize close collaboration between police and citizens to prevent crime before it occurs.
- **Changing the design of guns.** Studies indicate that requiring product safety features on guns could reduce unintentional shootings among children and youth. In addition, emerging technologies that would enable manufacturers to personalize guns could prevent unauthorized users like teenagers or thieves from operating the weapons.
- **Limiting the flow of illegal guns to youth.** In one national study of male high school sophomores and juniors, 50% of respondents reported that obtaining a gun would be "little" or "no" trouble—even though federal law bans most minors from possessing weapons. Federal and state laws regarding gun sales should be tightened so that fewer weapons are accessible to youth.

The physical, economic, and emotional toll of gun violence against children and youth is unacceptable. Regardless of one's position regarding adult ownership and use of guns, aggressive efforts are needed by the federal and state governments, working in partnership with local communities and parents, to reduce youth gun violence in the United States.

The David and Lucile Packard Foundation

Recommendations

RECOMMENDATION 1

Congress and federal health agencies should set a goal of reducing youth gun homicide to levels comparable to those of other industrialized nations, engaging in a comprehensive effort to identify the causes of youth gun homicide and reduce its prevalence in American society.

RECOMMENDATION 2

Federal and state public health agencies should make youth gun suicide a central focus of their gun violence prevention and suicide prevention activities, developing and assessing methods for keeping guns away from youth at risk of suicide.

RECOMMENDATION 3

Federal, state, and local public health and law enforcement agencies should make a commitment to collecting better data about gun-related fatalities and injuries by supporting development of a national system for reporting violent deaths and injuries and a system for tracing all guns used in crimes.

RECOMMENDATION 4

Policymakers, mental health professionals, and educators should develop, implement, and evaluate treatment programs that help youth exposed to gun violence cope with trauma.

RECOMMENDATION 5

Federal and state policymakers, in conjunction with public health experts and educators, should initiate creative public awareness and educational efforts—and evaluate existing approaches—to encourage stronger parental monitoring of children's exposure to guns and safe storage of guns in the home.

RECOMMENDATION 6

Federal, state, and local policymakers should develop and evaluate comprehensive, community-based initiatives to reduce youth gun violence—partnering with schools, faith communities, community service programs, parents, and young people.

RECOMMENDATION 7

Police should complement their existing efforts to deter youth gun carrying by developing and evaluating law enforcement approaches that include extensive police–community collaboration.

RECOMMENDATION 8

Congress should extend the jurisdiction of the Consumer Product Safety Commission or the Bureau of Alcohol, Tobacco and Firearms to regulate guns as consumer products, establish regulations requiring product safety features on guns, and evaluate the effectiveness of product safety interventions. State governments should extend similar authority to their consumer product safety agencies.

RECOMMENDATION 9

Congress and state legislatures should institute tighter restrictions on gun sales so that fewer guns illegally end up in the hands of youth. A variety of approaches should be implemented and evaluated—in particular, closer oversight of licensed dealers, regulation of private sales, and mandated licensing of gun owners and registration of guns.

Article Summaries

Firearm-Related Death and Injury among Children and Adolescents

Lois A. Fingerhut and Katherine Kaufer Christoffel

Gun violence affects children and youth in many ways: psychologically, emotionally, financially, and legally. But first and foremost, it affects children's physical safety. This article reviews trends in firearm-related injury and death among Americans under age 20, and assesses which youth are most at risk for firearm death. The authors call for a concerted effort to reduce youth firearm deaths to levels comparable to those of other industrialized nations, using approaches that span the public health, criminal justice, and educational spheres.

Youth, Guns, and Violent Crime

Alfred Blumstein

In the late 1980s and early 1990s, youth homicide rates rose to extremely high levels, then fell dramatically by the end of the decade. This article describes how several interrelated factors fueled the rise in youth violence, including increased use of handguns by youth, the rise of illegal drug markets, and increased youth gun carrying. The author observes that youth violence declined beginning in the mid-1990s as drug markets shrank, law enforcement increased efforts to control youth access to guns, youth gun carrying decreased, and the robust economy provided legitimate jobs for young people.

Where the Guns Come From: The Gun Industry and Gun Commerce

Garen J. Wintemute

It is illegal for youth under 18 to own rifles or shotguns, and for those under 21 to own handguns. However, young people who want to obtain guns illegally often report little difficulty in doing so. This article focuses on how guns in the United States are manufactured, marketed, and sold in ways that make them attractive and accessible to youth. The author describes policies that hold promise for decreasing the flow of guns to youth.

Mitigating the Effects of Gun Violence on Children and Youth

James Garbarino, Catherine P. Bradshaw, and Joseph A. Vorrasi

Countless children and youth are exposed to gun violence at home, at school, in their communities, or through the media. This article reviews research regarding the psychological effects of exposure to gun violence on children and youth, which include anger, withdrawal, posttraumatic stress, and desensitization to violence. The authors recommend strategies that adults can employ to help children cope with gun violence.

The Costs of Gun Violence against Children

Philip J. Cook and Jens Ludwig

Gun violence imposes significant costs on society, but these costs can be difficult to quantify. This article estimates the costs of gun violence by assessing how much Americans would be willing to pay to reduce such violence. The authors find that although gun violence disproportionately affects the poor, it imposes costs on all Americans. Their analysis suggests that the cost of gun violence is approximately $100 billion per year, of which at least $15 billion is directly attributable to costs associated with gun violence against youth.

Behavior-Oriented Approaches to Reducing Youth Gun Violence

Marjorie S. Hardy

Advocacy groups on both sides of the guns issue frequently point to changing personal behavior—of both parents and children—as a key element in reducing youth gun violence. This article reviews research surrounding behavioral approaches to gun violence prevention, and highlights obstacles that hamper these programs' effectiveness, with particular focus on programs aimed at children and youth. The author concludes that overall, although behavioral programs can be improved, they hold only limited promise for reducing youth gun violence.

Product-Oriented Approaches to Reducing Youth Gun Violence

Stephen P. Teret and Patti L. Culross

Research from the injury prevention field suggests that changing the product design of guns may be a more effective way to prevent injuries than trying to change personal behaviors. Adding product safety features to guns could make them more difficult for children to fire unintentionally, or more difficult to use if stolen or obtained illegally. This article gives a brief history of efforts to make safer guns, and assesses the potential of the product safety approach for reducing youth gun violence.

Policing Guns and Youth Violence

Jeffrey Fagan

To combat youth gun violence, law enforcement agencies across the United States have adopted a variety of strategies. This article presents case studies of how eight cities policed gun crime, through police–citizen partnerships, aggressive enforcement against youth suspected of even minor criminal activity, alternatives to arrest to change youth behavior, or a combination of approaches. The author concludes that although policing alone cannot contain youth gun violence, police departments can help shift social norms that contribute to such violence by carefully balancing enforcement with community collaboration.

Public Perspectives

The articles in this section shed light on the deeply held beliefs of Americans on both sides of the debate about youth gun violence. The first article, by Smith, reviews trends in public opinion regarding gun control, particularly policies that restrict youth access to guns. The second article, by Forman, examines how opinions are expressed by advocacy groups working on both sides of the gun issue.

- **Public Opinion about Gun Policies**
  Tom W. Smith
- **Children and Guns: Advocacy Groups Speak Out**
  James Forman, Jr.

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